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THE READING STRATEGIES OF SELECTED JUNIOR HIGH SCHOOL
STUDENTS IN THE CONTENT AREAS

by

Richard Earle Coles

A Dissertation Submitted to the Faculty of the
DEPARTMENT OF ELEMENTARY EDUCATION
In Partial Fulfillment of the Requirements
For the Degree of
DOCTOR OF PHILOSOPHY
In the Graduate College
THE UNIVERSITY OF ARIZONA

1981

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STUDENTS IN THE CONTENT AREAS

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SIGNED: Richard Earl Coles
The production of a dissertation is similar to strength training for an athletic event. Both require many hours of toil, sacrifice, and the guidance of knowledgeable advisors. The writer would like to gratefully acknowledge and sincerely thank those persons who performed important roles from the inception to the conclusion of this endeavor.

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ABSTRACT

This study investigates the reading strategies selected by junior high school students when reading social studies, science, and literature materials in school and a self-selected passage in a non-school setting. In addition interrelationships among their reading strategies and the subjects' purposes for reading, the students' personal models of the reading process, and the readers' attitudes toward reading, as well as the subject areas of social studies, science, and English are also examined.

Six subjects from a seventh grade class are administered the Estes Attitude Scales, the Burke Reading Interview, and are questioned concerning their purposes for reading the selected passages. Misuse analysis identifies the reading strategies these subjects employ in their natural environments. Retrospective responses are examined to investigate the subjects' awareness of their reading strategies.

The major findings indicate that each of these subjects sample syntactic, semantic, and graphophonic cues when reading. The more efficient readers produce more sentences which are syntactically and semantically acceptable, and result in no change to the intended meaning. The subjects' patterns of self-correction vary depending on the different materials. The students' sampling of graphophonic cues appears not to reflect reader proficiency but varies with different curricular materials. The retelling scores are not always predictable based on the readability formula ratings for the same passage. Other measures
do not relate simply to proficiency of reading. These findings indicate a complex interaction between the subjects' reading strategies and their attitudes toward reading or a specific discipline, reading in different settings, the selection of reading materials, and reading for different purposes.

The findings support a conclusion that these junior high school students employ recognition, prediction, confirmation, correction, and termination reading strategies when reading for diverse purposes teacher assigned, and self-selected materials in different settings. The subjects vary in their ability to adjust their reading strategies to meet the specific demands of different curricular materials. The subjects have differing perceptions of reading in different settings and among various materials. Students and teachers have different purposes for reading the same passages. The students do not seem to be having as much difficulty reading in terms of using the process as much as they have with flexible use of the process in relation to different materials and settings.
CHAPTER 1

INTRODUCTION

Much learning in and out of schools comes from reading. It is considered an important ability by both educators and non-educators. Society expects students to read well and to learn reading as part of a school curriculum. As a subject to be taught, it is a high priority to all. Teachers recognize the need to develop an individual's ability to cope successfully with different reading tasks encountered in school and beyond. Rupley and Gwinn (1978, p. 117) state that: "The reading demands of our world are changing. No longer can reading be considered an intellectual exercise or strictly entertainment, but an essential component of every individual's life."

In a literate society, there are many opportunities to read for a variety of purposes in different settings. Reading material is everywhere. People encounter different kinds of print in work, in school, and in leisure environments. Signs, billboards, packages, maps, directories, receipts, applications, and registration forms provide us with information. Novels, essays, poems, plays, and magazines entertain and describe for us the richness and history of a culture. Literacy has grown as a major concern of educators and society.

Despite this public and professional interest, the political nature of reading, the many seminars and conferences, and the large sums that are annually spent on instructional materials and many
research studies, teachers in all schools come upon students who have difficulty reading both self-selected and recommended materials in various content areas.¹

Traditionally, reading is primarily taught using narrative materials in the elementary grades. As students proceed through school, reading assignments increase in variety and number, and the emphasis changes from narrative materials to reading to learn, using expository prose.

According to Kealey (1980, p. 36):

Nothing is more frustrating for students than to be given a book they cannot read. Each September thousands of children find themselves in just such a position. The situation becomes more desperate when they must use the book for a year and are required to pass an examination on the book at the end of the course.

Although lessons are carefully planned according to the study guide of a particular text, many students who cannot read the textbooks are unable to complete the assignments and show little interest in their English, social studies, and science courses. These reading assignments, primarily from textbooks, have become central to the learning process and a dominant part of instruction in an academic discipline (Strange and Allington 1977). The Bullock Report, a survey of the state of literacy, learning, and teaching in Great Britain, states that: "An important aspect of reading behaviour is the ability

¹. The terms "content area" or "subject area" are used to define the sum of attributes comprising a given field of study. In schools, areas such as English, science, and social studies are typically called content areas.
to use different kinds of reading strategies according to the reader's purpose and the nature of the materials" (Bullock 1974, Recommendation #69, p. 522).

In many social studies, science, and English classrooms, all of the students are expected to read and comprehend the same materials regardless of individual differences. Karlin (1975, p. 63) elaborates on this pedagogical procedure:

Students are expected to explore wider fields through the study of diverse content. They are expected to assimilate ideas in social studies, science, mathematics, and other subjects. The vocabulary in many of the books they read goes beyond the words they normally use and hear. The materials often deal with new and unfamiliar concepts.

If there is a discrepancy between a student's ability to read and understand new concepts and the difficulty of the text, many teachers make the assumption that students cannot learn a particular subject or that they have not been taught to read. Marksheffel (1966, p. 47), for example, maintains that "large numbers of students fail to learn because they cannot read the assigned materials."

Recent reading research, however, suggests that such a simplistic explanation focusing on the reader as the problem does not take into account other variables that contribute to a student's responses to reading materials. A teacher's instructional methodology has an effect on reading and learning. In some classrooms, various instructional strategies are used to assist the students with reading the text and developing new concepts. Teachers in content areas are not always aware of their role in helping students deal with reading. In various settings, students read a variety of materials for different purposes.
In a classroom, the materials and purposes for reading are usually determined by the teacher. Students who have few opportunities using non-narrative materials may encounter difficulties while reading and learning from required passages.

Reading research that focuses on the reading process has produced a body of knowledge concerning language, reading as a language process, and the reader. Continuing his research based on psycho-linguistics theory, K. Goodman (1975a, 1979) suggests that reading is a language process, an interaction of thought and language. Readers, he contends, use their understanding of language along with knowledge of their world to obtain meaning directly from print. Readers sample from the graphophonic, syntactic, and semantic cueing systems and make predictions about meaning that are confirmed or corrected as the reading progresses. Reading, then, is an active problem-solving process (Y. Goodman and Burke 1980). Readers use sampling, predicting, confirming, and correcting reading strategies.²

Readers' ability to recreate meaning is more effective when their background experiences are similar to the information or events described by the author (K. Goodman 1970a). Successful readers "can construct a message which substantially agrees with the one the writer began with . . . and they use the least amount of effort to achieve that end" (K. Goodman 1974, p. 826). In content areas, where students read to acquire and expand their knowledge, a greater understanding of

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² For the purpose of this study, reading strategy is defined as a reader's technique or complex plan that utilizes available information to solve a problem while interacting with print.
reading strategies that students use with different content materials is needed.

Statement of the Problem

This investigation examines the reading strategies employed by selected junior high school students while reading in the content areas of social studies, science, and literature as well as an examination of strategies used in reading a self-selected passage. Reading both in and out of school settings is considered. In addition to their strategies, the students' purposes for reading, their personal models of the reading process and their attitudes toward reading itself, as well as the curricular areas of social studies, science, and literature, are also studied.

The following questions are to be answered:

1. Do students employ different reading strategies with differing curricular materials?

2. Do common reading strategies exist for different written materials, or do strategies vary according to specific reading assignments or tasks?

3. Do students' attitudes toward reading or a specific discipline influence their reading strategies?

4. How do students view reading in school as compared to reading in a non-school setting?

5. Does self-selection of materials as compared to teacher assignment affect students' reading strategies?
6. Do students' purposes for reading affect their individual reading strategies?

**Significance of the Study**

At present, within many elementary and junior high school settings, reading instruction is not considered an integral part of the content areas. It is usually treated as a separate subject in the curriculum. Today teachers are better educated to teach reading than formerly, and thus use more sophisticated materials during reading instruction. But concerns and criticisms from parents, administrators, and teachers of various academic disciplines about students' reading performance can still be heard (Lunstrum 1976).

A study of students' reading strategies is further complicated by several issues:

1. Educators do not agree on the exact nature of the reading process. Many divergent definitions of the strategies used during this process, based on assumptions about language and learning, have been developed.

2. Different concepts about the nature of reading have different instructional implications.

3. Much of the research, writing, and discussion in the field of reading focuses on reading instruction rather than on reading as a process. However, knowledge about students' reading processes in using different materials is essential before teachers can provide instruction to help develop these strategies. F. Smith (1979, p. iv) argues that "the universal
concern should change from what teachers should do to what teachers should know."

Many experimental research studies attempt to examine isolated aspects of reading and do not deal with reading in its social context. But students, as members of a literate society, interact with print within an environmental context. Signs, packages, billboards, magazines, labels, newspapers, comics, fiction, and non-fiction books are part of their world. Some of these materials the students choose for themselves to read. Others are recommended or provided by adults or friends. Students read for gaining information, for learning, and for enjoyment. They sometimes read because reading is required for purposes other than their own. From these experiences students develop attitudes and personal models of the reading process that apply to different settings.

Research needs to describe the demands that reading places upon students while in school and throughout their lives. Greater insight needs to be discovered which might then be applied by teachers to classroom instruction. Therefore, studies which provide in-depth description of students' reading strategies, using the same materials they encounter in their daily lives in and out of school, have become necessary. MacGinitie (1975-1976, p. 24) comments that: "We need to study extensively the strategies, operations, and uses that different people actually use in understanding (or misunderstanding) written materials of different sorts, as well as the operations that the materials appear to require."
To help alleviate societal concerns about reading and to assist students in becoming efficient mature readers, researchers need to examine students' reading strategies in the total context of a literate environment. It is this concern that this study addresses.
CHAPTER 2

REVIEW OF RELATED LITERATURE

This chapter is a selected review of the literature as it pertains to the reading strategies employed by junior high school students while reading in the three content areas of social studies, sciences, literature, and a self-selected passage. The first section of this chapter reviews reading as a skills model, reading in the content areas, a psycholinguistic model of reading, and miscue analysis. The second section focuses on students' personal models of the reading process, their attitudes about reading, their purposes for reading, and their self-selection of reading materials.

Reading educators are concerned about the transition between elementary school and secondary school reading instruction from basal readers to content area textbooks. They always want to develop in readers the attitudes and reading strategies that are essential for successful reading, especially as students leave the elementary schools and start reading in secondary school subjects. To assist teachers to achieve these objectives researchers endeavor to gain insights into how reading develops, and about activities that encourage reading. Some studies focus on content area materials, while others attempt to explain the reading process and reading in the various disciplines.

Since the first systematic studies in the 1880s, different concepts of the reading process have emerged. Different theoretical
positions influence reading research, methods of instruction, reading materials, successful reading, and learning.

The two major theoretical positions which dominate the field of research include the view of reading as a skill as opposed to those who view reading as a dynamic, human process.

**Theoretical Models of Reading**

Reading as a Skills Process

A skills-oriented view of reading based on behavioral psychology and learning theory has dominated educational research in reading for many decades (Venezky 1977).

These researchers attempt to divide the reading process into a series of skills and sub-skills. Taxonomies of reading skills (Barrett 1968, Cleland 1964, Spache 1963) are believed to help clarify the relationship between skills, and are presumed "to increase understanding of the phenomena under investigation" (Simons 1971, p. 342). When dealing with reading in the content areas, skills-oriented researchers try to identify general reading skills and those unique to a specific discipline.

Ritter and Lofland (1924) investigate the relationship between the general reading ability of students in grades four through eight and their ability to interpret specific materials involving reason. Swenson (1942) examines grade eight students' rate, comprehension, and vocabulary skills when they read narrative and science materials. Shores (1943) attempts to determine the relationship between certain reading and study skills and comprehension when grade nine students
read scientific and historical passages. McMahon (1943) compares
grade five students' reading in arithmetic, literature, science, and
social studies. Artley (1948) focuses on the relationship between
grade eleven students' general comprehension and their comprehension
in the content area of social studies. Fay (1950) seeks to discover
if five specific reading skills contribute to successful reading in
arithmetic, social studies, and science at the grade six level.

Other studies investigate grade five students' literal and
critical reading skills when reading science (Maney 1958) and social
studies materials (Sochor 1958). A common conclusion of these investi-
gations indicates the presence of general reading skills and specific
reading skills unique to each discipline. Comments which illustrate
such a conclusion include: "The ability to read scientific and his-
torical materials holds unique and different relationships . . ."
(Shores 1943, p. 590); "there exists a high degree of specificity in
the factors relating to reading comprehension in a specific subject-
matter area . . ." (Artley 1948, p. 184); "merely because a child
reads efficiently one type of subject matter is not assurance that he
will read efficiently other types of subject-matter material . . ."
(McMahon 1943, pp. 232-233); "the reading skills related to subject
matter achievement differ from one achievement area to another" (Fay
research, comments: "It is no longer possible to hold that all reading
skills will transfer from one field to another. Reading is not a
generalized ability that the pupil learns once and for all time.
Rather, reading is a composition of many skills, each varying with the situation."

While these studies provide historical background into reading research in the content areas, the conclusions of these investigations do not correspond precisely to the research questions raised in the present study. Although these researchers conclude that there are specific differences from one discipline to another and minimal transfer from one to another, little has emerged from their research to specify what factors might be involved in these differences.

Perhaps since these researchers do not conceptualize reading as a process, they do not discover the strategies readers use with different content materials. Research findings for their experimental studies are obtained through an analysis of the students' scores on various reading and achievement tests instead of analyzing and observing readers in a natural setting using the actual materials under study. Because of these limitations, these studies do not provide as useful knowledge as they might about the reading strategies of junior high school students with different content materials.

Other investigators (McCalliser 1930, Dewey 1935) attempt to explain students' difficulties when reading in the content areas of mathematics, history, and general science. To acquire information about the reading process both of these researchers analyze students' errors in reading.

McCallister (1930, p. 191) visited classrooms to observe methods of teaching and students' study activities to "identify their difficulties in performing the reading activities." McCallister and Dewey
report that some reading difficulties are common to several disciplines while many reading difficulties are unique to a specific discipline. These researchers, however, view all error as problematic. Unlike other researchers, McCallister, for one, observed students reading in a school context.

In addition to the researchers who look at reader performance, others examine the differences in the reading materials. In a comprehensive study of science, social studies, mathematics, and literature textbooks, N. B. Smith (1965) investigates the different writing patterns in each of these content areas. Her analysis identifies the following prevailing patterns of writing:

1. **Literature**: the story (short or novel), essay, drama, biography, fable, and poetry (N. B. Smith 1965, p. 385).


3. **Social Studies**: pictures, maps, cause and effect, sequential events and dates, comparison, detailed statement-of-facts, and propaganda (N. B. Smith 1965, pp. 382-383).

But writing patterns are difficult to label. Characteristic ways of writing often shift or are used in combinations in the content areas. Hash (1974) notes that some social studies authors have a tendency to introduce readings from primary sources in their texts. These passages that contain archaic word usage would have a different
writing pattern than the rest of the textbook. Also, few researchers investigating reading materials have current linguistic insights and a knowledge of language.

Other researchers attempt to match content area materials with students' reading ability. Readability formulas are used to assess readability and measure students' comprehension. Klare (1974-1975, p. 64) reports that readability formulas use "counts of language variables in a piece of writing in order to provide an index of probable difficulty for readers." The cloze procedure involves the selection of a passage from a text with the systematic deletion of words (Bormuth 1968). In opposition to readability formulas, Herber (1972) and Estes (1972a) are concerned about the range of difficulty found within texts. Estes (1972a, p. 184) notes that the readability range within a given text is often "greater than the range of difficulty between texts intended for different grade levels." Since readability formulas do not account for specialized vocabulary, Manzo (1976) argues that these devices would probably not be very useful in predicting reading levels in most textbooks. Cohen (1975) cautions researchers that Bormuth's research on the cloze procedure deals with narrative prose and not with the expository materials found in content area classrooms.

In summary, research based on a skills-oriented view of reading and different analyses of content area materials has not provided knowledge about students' reading strategies with different materials. Instead, this research focuses on the differences inherent in the
reading materials. Reading is not considered in the total context of a learning environment.

Psycholinguistic Model of Reading

By the early 1960s some researchers considered experimental research inadequate to provide insights into reading. Viewing reading as an aspect of language, these researchers sought to investigate the interaction between thought and language.

Psycholinguistics is a field of study that "combines cognitive psychology and linguistics in order to analyze and understand the language and thinking process, including reading, as it occurs in humans" (Cooper and Petrosky 1975, p. 92). The value of psycholinguistics for teachers and researchers "lies in the insights it can provide into the reading process and the process of learning to read" (Smith and Goodman 1973, p. 178).

K. Goodman's research has generated a body of knowledge on the nature of the reading process. He agrees with other psycholinguists that the goal of reading is always the identification of meaning. K. Goodman (1970a, p. 135) defines reading as "a psycholinguistic process by which the reader, a language user, reconstructs as best he can, a message which has been encoded by a writer as a graphic display." Frank Smith (1979, p. 105) proposes that "reading is asking questions of printed text. And reading with comprehension becomes a matter of getting your questions answered." K. Goodman (1975a) views reading as a language process. Language is used for communication and as a medium of thought and learning (K. Goodman, Y. Goodman, and Burke 1978).
Readers use their understanding of language and knowledge of their world to obtain meaning from print. They actively interact with writers through print (K. Goodman and Y. Goodman 1977). To comprehend a text the reader "must be actively involved in the reconstruction of the message" (K. Goodman 1976, p. 5).

From a reader's prior knowledge of language, K. Goodman (1973, p. 9) identifies three sources of information: the graphophonic, syntactic, and semantic, that are used "simultaneously and interdependently." Reading involves the use of recognizing, sampling, predicting, confirming, correcting, and terminating strategies to make use of the graphophonic, syntactic, and semantic cues.

Prediction, "the use of prior knowledge (nonvisual information) to eliminate unlikely alternatives" (F. Smith 1979, p. 67), is an important strategy in the reading process. By predicting what a writer will say, readers are able to sample, to follow an author's meaning while using a minimum of information. Readers are constantly hypothesizing during the reading process. They monitor their progress by confirming or disconfirming these predictions. Readers do this "by constantly checking to see if what they have predicted is supported by further reading and by whether they are able to make sense of what they have already processed" (K. Goodman et al. 1977, p. 12). When the predictions are confirmed, the reader will proceed with the reading task. If the passage does not make semantic and/or syntactic sense, then the reader will stop, regress, and use corrective strategies to gather more information, correct the prediction, and recover meaning. At the conclusion of the reading task the brain terminates the process.
K. Goodman (1973, p. 9) describes the integrated use of these psycholinguistic strategies:

Readers develop sampling strategies to pick only the most useful and necessary graphic cues. They develop prediction strategies to get to the underlying grammatical structure and to anticipate what they are likely to find in the print. They develop confirmation strategies to check on the validity of their predictions. And they have correction strategies to use when their predictions do not work out and they need to reprocess the graphic, syntactic, and semantic cues to get to the meaning.

Miscue Analysis

Miscue analysis procedures based on psycholinguistic insights, developed by K. Goodman and his colleagues, are used to identify and evaluate the reading strategies employed by a reader (K. Goodman 1969, 1973; Y. Goodman and Burke 1972). K. Goodman (1974, p. 63) renames oral reading errors miscues because he believes that "they are the best possible indicators of how efficiently and effectively the reader is using the reading process." A miscue is defined as "an actual observed response in oral reading which does not match the expected response" (K. Goodman 1973, p. 5). Also miscues are not believed to be random errors because they are produced in response to the same cues which produce the expected response (Y. Goodman and Burke 1973, K. Goodman and Y. Goodman 1977). Miscues are described as serving as a "window on the reading process" (K. Goodman 1973, p. 5).

Since Goodman's initial research into the reading process, a number of miscue studies investigate the reading strategies readers use to process written materials. Y. Goodman (1967) has observed six beginning readers' oral reading development over several months in order
to code and analyze their miscues according to levels of cue systems, the handling of miscues, and the types of miscues.

This study finds that all of the subjects make miscues. A substantial number are corrected through regression, usually to conform to the expected response. The readers make use of a variety of cues including their language, the language of the text, and their background experiences. As the beginning readers become more proficient, they make more effective use of the syntactic and semantic cues. Dialect miscues, Y. Goodman finds, do not affect reading proficiency or comprehension.

Allen (1969) investigates the substitution miscues of elementary school readers in grades two, four, and six. Four cueing systems are examined: graphic, phonemeic, syntactic, and semantic. He discovers at each grade level the syntactic relationships are the strongest. The largest number of substitutions at each grade level are phrase-level substitutions. These subjects also tend to correct unacceptable syntactic and semantic miscues.

Page (1970) studies the miscues generated by three elementary school children reading from ten graded basal readers ranging from pre-primer to sixth grade. The readers' grade levels are not consistently related to the number of generated miscues. He also reports that the subjects in this study demonstrate their own unique form of the reading process with materials of different grade levels.

Two miscue studies by Carlson (1970) and Kolczynski (1973) are especially pertinent to the present study. Both of these investigators analyze reading miscues generated from different content area materials.
Carlson (1970), using the Goodman Taxonomy of Reading Miscues (K. Goodman 1969), analyzes the oral reading miscues of six fourth grade boys as they read from three different types of materials: basal readers, science, and social studies. The ratio of noncorrected miscues to self-corrected miscues, he finds, is higher in science and social studies than in basal readers. Miscues generated from the basal reader stories tend to have more semantic acceptability than the miscues in the content area materials. The readers seem to have a greater dependency on syntactic cues than the semantic or graphophonic cue in the content materials.

Kolczynski (1973) uses the Reading Miscue Inventory (Y. Goodman and Burke 1972) developed from the Taxonomy to investigate sixth grade readers' use of the syntactic and semantic cue systems as they read social studies, science, literature, and mathematic materials. He reports no significant relations with regard to the percentage of acceptable grammatical function miscues, the percentage of grammatically and semantically acceptable miscues, the comprehension and grammatical relationship patterns, and the number of miscues corrected or the total number of miscues. Kolczynski concludes that these readers make similar use of syntactic and semantic cues to gain meaning with each content material.

Miscue analysis of readers in different grades suggests the existence of several trends. Among these trends are:

1. Miscues are systematic, not random.
2. Readers seek meaning from print.
3. Readers use the graphophonic, syntactic, and semantic cueing systems in an integrated fashion.

4. Miscues tend to be more syntactically acceptable than semantically acceptable.

5. When readers detect a loss of meaning, they tend to correct their miscues.

6. Syntactically and semantically acceptable miscues appear as an indicator of good comprehension.

These studies also indicate that miscue analysis based upon a theoretical model appears to be a useful tool in the study of the reading process.

Psycholinguistic research suggests that reading is a language process. Readers are actively involved in reconstructing the author's message. According to this view there is one reading process. Efficient, average, and developing readers vary in their control of the process. Readers make predictions. Efficient readers generally make successful predictions or correct their miscues based on their prior knowledge of language and of their world. Efficient readers rely on as few cues as possible to get at meaning and not to overload the information processing system.

Researchers with this view of the reading process propose that readers use basically the same process with the many reading tasks found in a literate society. But content areas such as literature, science, and social studies present students with special kinds of language. With different reading tasks, readers vary their strategies.
F. Smith (1979, p. 107) describes the role of the reader with different kinds of texts:

One of the most important skills of reading . . . is knowing the right kinds of questions to ask for different kinds of text . . . . But the questions readers ask must vary with the material they are reading, which is why prior knowledge is so important. If we do not know the right kinds of questions to ask of a math text or knitting pattern, then obviously we will not be able to read a math text or knitting pattern.

Reading in the content area depends on the reader's knowledge of the concepts of the passage and the language of the author. Readers must also be able to use specific reading strategies required for reading in various content areas.

It seems that the psycholinguistic view of reading, which focuses more on the background and experience of the reader and the integration of knowledge and meaning, might be more fruitful to explore in terms of content area materials than more traditional skills-oriented view of reading.

A Student's Personal Model of the Reading Process

Students in most classrooms receive instruction in reading. Researchers (Harste and Burke 1977, Stansell 1977) suggest that this instruction, based on a teacher's or textbook author's theoretical orientation, influences a student's personal model of the reading process.

Harste and Burke (1977) also suggest students' reading ability is influenced by their own personal model of the reading process. They identify three theoretical orientations or models of reading: the
sound/symbol or decoding model, which is called the phonics model in this study; the skills model, which is called the word-oriented model in this study; and the whole-language orientation. They conclude readers often reflect their personal model of the reading process in both interview situations as well as through their reading strategies.

The sound/symbol, or phonics model of reading emphasizes the skill of decoding to unlock the sound of words. By completing this task, a reader develops a vocabulary. Instruction in this model of reading stresses developing skill in using letter/sound relationships. Students who would ask readers to read sentences slowly and sound out words have a sound/letter or phonics model of reading.

The skills model of reading stresses word recognition; therefore, it is called the word-oriented model in this study. Instruction consists of a series of discrete skills that focus on learning vocabulary from memorization of lists of commonly used words. Students who stress the importance of words or word recognition skills have a skills or word-oriented model of reading.

The whole language model of reading indicates that readers develop psycholinguistic reading strategies as they read. They are engaged in predicting and confirming as they read. Reading is always focused on meaning. Students who stress reading strategies that lead to meaning have a whole-language model of reading.

Other studies (Elder 1971, DeLawter 1975, Barr 1974-1975) demonstrate that instruction strongly influences the strategies used by a reader. Barr (1974-1975), as an example, reports that first grade children whose reading instruction stresses phonics rely extensively on
phonetic strategies to identify unknown words. They use these
strategies and even produce non-word substitutions that show the
influence of graphic information. In contrast, children taught through
a sight-word approach generally do not produce non-word substitutions
for the printed ones, but substitute words taught at the same time.
Barr (1974-1975, p. 555) also comments that "most children who initially
formed a strategy that differed from the class instructional emphasis
changed their strategy to accord with the class method and materials
by the end of the first grade."

DeLawter's (1975) and Elder's (1971) research indicate that
children develop one main word identification strategy determined by
instruction, and this strategy remains dominant for a period of time.
Barr (1974-1975, p. 581) concludes that neither group (children using
a sight word strategy and children using phonics strategies) treat
reading "as a natural language experience." These studies suggest that
instruction influences reading strategies and a student's perceptions
of reading.

**Attitude**

Educators assume that a positive attitude toward reading and
subject matter is conducive to learning. Kennedy and Halinski (1975)
argue that individuals develop attitudes before they develop interests.
In order to become lifetime readers, students must have a positive
attitude toward reading, these authors contend. Estes (1971, p. 135)
stresses that "how students feel about reading is as important as
whether they are able to read, for as is true for most abilities, the
value of reading ability lies in its use rather than its possession." Other researchers agree with these authors that the amount and kinds of reading are determined by students' attitudes (Roettger, Szymczuk, and Millard 1979).

Despite these conclusions, reading research does not generally focus a great deal of attention on attitudes, specifically at the junior high school level. Several studies investigate different aspects of reading attitudes in the elementary grades: Gurney (1966); Askov (1969); Bullen (1970); Fiddler (1974); Brown, Engin, and Wallbrown (1979a, 1979b); Engin, Wallbrown, and Brown (1976); and Wallbrown, Brown, and Engin (1978).

Similar studies have also been conducted at the secondary school level: Shirley (1969), Estes (1972b), Dulin and Chester (1974), Estes and Johnstone (1974), and Kennedy and Halinski (1975).

At the junior high school level most studies attempt to discover changes in students' reading attitudes attributable to different methods of instruction, materials, or activities.

Orr (1973) reports an increase in achievement but a decrease in positive reading attitudes with remedial grade seven and eight students when they use an individualized reading program.

Kemper (1970) assesses grade seven students' attitudes toward reading using a Semantic Differential that consists of 15 concepts and 14 scales. The concepts are representative of persons (e.g., the reading teacher), activities (e.g., reading out loud), and materials (e.g., reading workbook). Based on the results of this study, the author concludes that these students have a favorable attitude toward
reading. Students classified as reading above grade level have a more positive attitude than those who are classified as reading below grade level. All of the students consistently give a low ranking to reading workbooks and reading out loud.

McCaul (1944) and McKillop (1952) investigate the effect of the readers' attitudes toward a topic and their interpretation of a passage. After junior and high school students read a selection, McCaul tries to determine if their attitudes toward the story's hero affect their interpretation of the person's motives. McCaul reports that students with favorable attitudes tend to suggest favorable motives and those with unfavorable attitudes ascribe unfavorable motives.

McKillop studies the relationship between attitudes and different types of reading responses. She measures grade eleven students' attitudes toward Blacks, Communism, and Israel. The students read a selection on each topic. Multiple choice tests for each topic have one choice judged as favorable and another judged as unfavorable. The reader also chooses from a list of three adjectives the one that best characterizes the author of the passage. Finally, the students write the one thing that impresses them the most during the entire testing procedure. Results indicate that many responses to the reading test items are related to attitudes. This relationship also depends on the kinds of questions asked. On questions of judgment, evaluation, and prediction, the relationship between responses and attitudes is regularly found. With questions on specific facts or details, this relationship is seldom obtained. McKillop (1952, p. 83) recommends from
the results of this study that "the reader's attitude should be considered one of the factors which may influence his reading."

Farreed's (1971) research is especially pertinent to this study. As part of his investigation into the reading process in two subject areas, biology and history, Farreed measures the students' attitudes toward these disciplines as school subjects. He hypothesizes that grade six students generate different types of interpretive responses to biology and history reading materials. These responses differ individually within each discipline, and the interpretative responses vary with the specialized vocabulary of the discipline and the students' attitudes toward that content area. Before reading the experimental passages, Farreed obtains for each subject a measure of their attitudes toward biology and history as school disciplines.

The subjects first read the passages silently and then give their retrospective interpretations of the materials as they read orally. The subjects also answer specific questions about each selection. Some of Farreed's major findings are: (1) the nature of the materials influences a reader's interpretive responses, (2) each subject has a unique pattern of interpretive responses, (3) readers who respond accurately and fluently with one material tend to perform as well with the other material. Farreed (1971, p. 529) also notes that:

Unfavorable attitudes toward different content areas need to be identified and dealt with appropriately in order to permit successful and balanced advancement in interpretation . . . . Attitudes toward history and biology played certain important roles in interpreting materials from these fields.
These studies indicate that readers' attitudes influence the amounts and kinds of reading they do. Prior research focuses on reading attitudes related to different methods of instruction, materials, or activities, and the effect of students' attitudes upon reading.

No previous investigations have been found that examine students' reading strategies in the junior high grades and their attitudes toward reading in general or in a specific discipline.

**Reader's Purpose**

Purpose has long been considered an important determinant of how a person reads. Y. Goodman and Burke (1980, p. 44) offer the following succinct description of the role of purpose in reading: "The purpose readers have in mind as they read, often controls what they are reading for, the strategies they will use in their reading, and what they will remember from their reading. No reading takes place without a purpose." Despite the important relationship between purpose, setting, and reading, research that examines this relationship has been limited in quantity and narrow in scope.

Some studies examine the reader's purpose as related to speed and comprehension. McIntire (1944, p. 264) concurs with Carpenter and Young (1946) that "rate of reading and other reading habits should vary with the materials to be read and the purposes for reading." Tinker (1939) and Blommers and Lindquist (1944) conclude that purpose is an important factor in reading rate.

In a recent investigation P. Miller (1976) has junior college students read one sample passage for general information and a second
passage for details. Results of the study indicate a difference in reading rates between the students who read for details and those who read for general information.

Other investigations examine the instructions teachers use to establish purposes for reading. Empirical information collected by Grant and Hall (1968), and Rothkopf and Kaplan (1972) suggest that vague directions phrased in general terms are relatively ineffective. Studies providing purpose setting directions (Berlyne 1966, Peeck 1970, Rothkopf and Kaplan 1972) report increased reading achievement and facilitated reading retention.

Few studies seek to discover students' purpose-setting behavior. Henderson (1963) attempts to examine this behavior with good and poor grade five readers. Subjects are asked to formulate purposes after they examine the title and pictures in a second grade reading book, read another selection from the same book, read a third story for experimenter-supplied purposes, and read a final passage with no specific directions. Analysis shows that the good and poor readers differ significantly on their ability to set purposes and on comprehension measures of the story material.

Research studies dealing with purpose-setting are mainly concerned with understanding its relationship with reading rate and instructions teachers use to establish purpose in reading. Few reported studies attempt to investigate a student's purpose for reading or the relationship between this purpose and his/her reading strategies.
Self-Selection

Self-selection of reading materials has long been advocated as an essential component of a reading program. In a classroom, Veatch (1966, p. 129) maintains, "when the powers of self-choice are set in motion, the climate for learning is at its best." Self-selection, Mingoa (1962, p. 31) explains, "is based on the principle that the student, under proper guidance in a rich reading environment, will choose reading experiences best suited for his particular development."

Such experiences allow "commitment and involvement" (Y. Goodman and Burke 1980, p. 20). Moffett and Wagner (1976, p. 136) allude to the importance of developing selection skills in school that would be useful to students throughout their lives:

The valuable process of browsing, scanning, and using tables of contents or indexes to find selections that are about the same subject or illustrate the same theme or are written in the same genre is usually confined to textbook editors or teachers, thereby robbing students of one of their most important learnings. Since in our culture no one can be sure which information will be of value in the student's later life, the most powerful capacity they can develop is the ability to find on their own the reading selections that they need or value.

One of the most valuable aspects of self-selection is summarized by Lee and Rubin (1979, p. 280): "If children select their own books and can decide to read them or return them whenever they wish, they usually read a wide variety in content and/or in level of difficulty over a period of time."

Although these writers advance a sound rationale for student participation in the selection of reading materials, few investigators attempt to study reading strategies in a freely selected passage. A
review of prior research also reveals no previous studies that examine the relationship between reading strategies and the self-selection of materials in a non-school setting. The dominant role of textbooks in the curriculum may account for a lack of research in this area.

According to Black (1967, p. 3):

Few people are aware of the important role some 250 million textbooks play in the education of 50,000,000 elementary and high school students. For instance, during his school career your child will either commit to memory or attempt to absorb at least 32,000 textbook pages, and this does not include supplementary readings in social studies, literature, or science. In the first grade he will complete at least four textbooks, and by the time he finishes his last year in high school, he will intensely study another sixty . . . . Textbooks . . . are still the single most important teaching tool.

During reading instruction in the United States, over eighty per cent of all primary and intermediate grades use a basal reading series (Miller 1977). In such programs materials are usually preselected for the students.

With such a heavy reliance on textbooks, many researchers do not recognize a need to examine the self-selection of reading materials or to consider the impact of self-selection on the reading process.

The exception to this practice is research dealing with individualized reading. For example, Breen (1967) reports that less than half of his sample of grade two and grade five subjects are capable of selecting materials at an appropriate level of difficulty. In contrast to this result, Packer (1967) reports that grade four students select library books they can read. Typical of research dealing with self-selection in an individualized reading program, these
studies focus on the subjects' ability to select materials and reading levels, not with how the students read the books they select.

Similarly, no previous studies have been found that attempt to examine students' reading strategies and the self-selection of reading materials in an individualized reading program.

In this chapter the literature is selectively reviewed as it pertains to the reading strategies junior high school students employ while reading in the content areas of social studies, science, literature, and a self-selected passage. This review indicates that a skills-oriented model of reading has dominated reading research, historically. This model attempts to divide reading into a series of skills and focuses on the inherent differences in reading materials. These studies do not provide knowledge about students' reading strategies with different materials.

A psycholinguistic view of reading that focuses more on the background and experience of the reader, the integration of knowledge and meaning, appears to be a more fruitful theoretical base for examining junior high school students' reading strategies with different content materials.

Students' personal models of the reading process, their attitudes toward reading, the purposes for reading, and the self-selection of reading materials are also examined in this chapter.

Research indicates that these factors may affect students' reading strategies. Few previous studies, however, attempt to investigate relationships between reading strategies and these factors
in the context of a learning environment. No previous research studies examine students' reading strategies in a non-school setting.
CHAPTER 3

DESIGN OF THE STUDY

This study examines the reading strategies of junior high school students within three content areas: social studies, science, literature, and in a self-selected out-of-school reading passage. The reading strategies they employ in each curricular area are described and analyzed. The researcher conducted interviews to determine the students' personal model of the reading process, their purposes for reading the selected passages, their attitudes toward reading in general, and their attitudes toward the curricular areas of social studies, science, and literature.

Data from these interviews are analyzed and described in response to the major questions of the study. A reading profile based on the analysis of the readings, and the interviews, is developed for each student.

Assumptions

This study and procedures are based on the following assumptions:

1. English, science, and social studies teachers are capable of identifying efficient, average, and developing readers based on students' reading performances in each of these disciplines.

2. Subjects in this investigation give serious and thoughtful responses to the research procedures of this study.
Limitations of the Study

1. Reading strategies of these subjects are in a state of development. The description of these strategies illustrates this developmental nature at a particular moment in time.

2. The study is restricted to grade seven students in a junior high school setting.

3. The study deals with only one researcher-selected passage in literature, science, social studies, and one self-selected passage. Other passages of varied difficulty might produce different patterns of miscues. Other content areas are not represented.

4. Oral reading is used to obtain current data on reading strategies. From the oral reading the researcher has inferred about the silent reading process.

Research Questions

1. On the basis of miscue analysis procedures, to what degree do students employ different reading strategies with differing curricular materials (social studies, science, literature, and self-selection)?

   a. Do readers produce miscues that result in different percentages of syntactic and semantically acceptable sentences with differing curricular materials?

   b. Do readers produce miscues that result in different percentages of changes in meaning from the author's text with differing curricular materials?
c. Do readers' percentages of self-correction of miscues vary with different curricular materials?

d. Do readers produce different percentages of miscues with graphic similarity, sound similarity, or grammatical function similarity with differing curricular materials?

e. Do readers produce similar reading strategies with different curricular materials?

f. Do readers' retelling scores vary with different curricular materials?

g. Do readers produce retrospective responses that indicate their awareness of personal reading strategies?

2. On the basis of the Burke Reading Interview, Estes Attitude Scales, and miscue analysis procedures, to what degree do reading strategies vary according to students' attitudes toward reading or toward a specific discipline?

a. Do readers with positive attitudes toward social studies, science, literature, and reading in general, produce miscues that result in different percentages of syntactically and semantically acceptable sentences than readers with negative attitudes toward social studies, science, literature, and reading?

b. Do readers with positive attitudes toward social studies, science, literature, and reading in general produce miscues that result in different percentages of changes in meaning than readers with negative attitudes toward social studies, science, literature, and reading?
c. Do readers with positive attitudes toward social studies, science, literature, and reading in general self-correct a different percentage of miscues than readers with negative attitudes toward social studies, science, literature, and reading?

d. Do readers with positive attitudes toward social studies, science, literature, and reading in general produce miscues that result in different percentages of miscues with graphic similarity, sound similarity, or grammatical function similarity than readers with negative attitudes toward social studies, science, literature, and reading?

e. Do readers with a positive attitude toward self as a reader produce different percentages of miscues than readers with a negative attitude toward self as a reader?

3. How do readers' responses vary depending on whether they are reading in school or in a non-school setting?

a. To what degree do their responses to the Burke Reading Interview questions vary?

b. According to miscue analysis procedures, to what degree do their strategy percentages vary?

c. In what ways do their general attitudes and responses in the research sessions vary in a school and a non-school setting?

4. How do readers' responses vary depending on whether the material has been assigned by the teacher or has been self-selected?
a. To what degree do the students' responses to the Burke Reading Interview questions vary?

b. To what degree do the students' strategy percentages using miscue analysis vary?

c. In what ways do the students' general attitudes and responses in the research sessions vary?

5. How do readers' strategies vary depending on their purposes for reading?

a. To what degree do the students' strategy percentages based on miscue analysis vary?

b. In what ways do the students' general attitudes and responses in the research sessions vary?

Selection of Subjects

Subjects for this study are grade seven students selected from a suburban junior high school in Tucson, Arizona. The school serves approximately 670 students, and the population reflects recent court orders for desegregation. Approximately half of the students are minority students. The school's population represents a diverse range of socioeconomic backgrounds and learning experiences. However, the subjects of this study are members of the same class in school and have the same social studies, science, and English teachers.

The subjects' teachers are asked to list the class in rank order according to reading ability in their content areas, based on the students' daily performance in class. The English teacher also uses the scores on the reading subtest of the Comprehensive Test of Basic
Skills (1974) to aid in ranking. The ranked list is divided into three sections.

The following definitions are used for the selection of subjects:

1. **Efficient Reader**: A student who places in the top ten per cent in the reading subtest of the Comprehensive Test of Basic Skills (1974). A student who places in the top third of the teacher's rank order of students in his or her class.

2. **Average Reader**: A student who is reading approximately at grade level on the reading subtest of the Comprehensive Test of Basic Skills (1974). A student who places in the middle third of the teacher's rank order of students in his or her class.

3. **Developing Reader**: A student who places in the bottom ten per cent on the reading subtest of the Comprehensive Test of Basic Skills (1974). A student who places in the bottom third of the teacher's rank order of the students in his or her class.

From each of these groups, one boy and one girl are selected for the study. Classroom attendance, cooperation, and verbal ability are also variables considered in the final selection of subjects. In addition, all of the subjects speak English as their first language and indicate that they read some material in a non-school setting.

**Selection of Passages**

To examine the reading strategies these subjects employ in their natural environment, the researcher selected passages that are part of the ongoing assigned reading in social studies, science, and English
classes. The subjects are familiar with the texts from which the passages are taken, which are used during the year as an integral part of the curriculum. The students are often given reading assignments from these texts as homework in each content area. The researcher selects a passage from each content area that is a part of the next unit of study that the teacher indicates would be assigned. It is necessary to choose something new in order to follow the Reading Miscue Inventory procedures. Although the subjects are familiar with the text, they have not previously read the selected passage. The subjects in this study read the selected passages two or three days before the rest of the class. Each passage covers a complete topic or story.

The following are descriptions of the passages used in this study.

Selection A: Social Studies

Chapter 23, "Who Has Power?" (Stepien 1979, pp. 278-294).

Various aspects of power in terms of human interaction are described in this chapter. Power is defined in terms of individuals, groups, ideas, and places. Sources of power, the just and unjust uses of power, and the relationship between values and power are also discussed in this passage. The chapter is 16 pages long, with 1,429 words. The readability ratings for this selection are: Dale-Chall, high 8th, and SMOG--8.0.
Selection B: Science

"Depending on One Another" (Burkman et al. 1977, pp. 9-15).

The science chapter investigates the interrelationship between plants and animals. It describes the solid, liquid, and gaseous input-output needs of each living thing. The remainder of this chapter demonstrates how the activities of living things change the environment and influence one another. The authors conclude with questions dealing with factors that would cause changes in the natural balances. The passage is seven pages long, with 1,232 words. The readability ratings for this science passage are: Dale-Chall, high 8th, and SMOG--9.0.

Selection C: Literature

"John Pappas Tries Out for the Mets" (Durr, Pescosolido, and Poetler 1974, pp. 344-347). This short story describes John Pappas' tryout as a pitcher for the New York Mets. John wants to be famous. After practicing during the winter in the New York area, John quits his job and night school and arrives at the Mets' first training camp in St. Petersburg, Florida. Although he has little experience playing baseball, Pappas' polite, determined attitude impresses John Murphy, a team official. Murphy agrees to give Pappas a tryout. Many of the newspapermen and other training camp followers speculate on Pappas' pitching ability. When Pappas does throw at the tryout, his pitches are slow and wild. The story ends with Pappas wondering about his chances of becoming an outfielder or a pinchhitter. The passage is four pages long with 1,457 words. The readability ratings for this story are Dale-Chall, 9-10 and SMOG--9.0.
Selection D: Self-Selected Out of School Passage

The subjects are reminded that they have previously indicated that they read materials in a non-school setting. The researcher encourages them to choose a passage that they have not previously read and that would be typical of their out-of-school reading. For the miscue analysis procedure, two subjects read passages from books they are currently reading starting where they left off reading. The students purchased these books because they are interested in the subject matter. Articles from magazines were selected by the other four subjects. These magazines are reading materials found in the homes of these students. A member of each family subscribes to these publications.

Figure 1 shows the self-selection passages chosen by each subject. A summary of each of the self-selected, out-of-school passages is found in Appendix B.

Procedures

The procedures employed in order to achieve the goals of this study will follow the discussion of the piloting of the procedures.

Piloting Procedures

A pilot investigation, conducted prior to the collection of data to examine the procedures to be followed in the actual study, gives the researcher an opportunity to become proficient with the procedures with subjects not used in the actual study. These subjects represent efficient, average, and developing readers. Burke Reading Interview is administered to determine their view of reading, and the Estes Attitude
<table>
<thead>
<tr>
<th>Subject</th>
<th>Source</th>
<th>Self-Selected Passage</th>
<th>Author</th>
</tr>
</thead>
</table>
| Kim     | Seventeen Magazine  
          Vol. 39  
          February, 1980 | "The Fun's No Fake" | Edwin Miller |
| Robert  | Sports Illustrated  
          Vol. 51, No. 15  
          October 8, 1979 | "All the Champs were Titanic Failures" | Larry Keith |
| Jane    | Readers Digest  
          Vol. 116, No. 697  
          May, 1980 | "Trek of the Great White Bear" | Franklin Russell |
| Tim     | Sports Illustrated  
          Vol. 52, No. 22  
          May 26, 1980 | "Strangers in the Limelight" | Steve Wulf |
| Lynn    | The Fog  
          Bantam, New York | Chapter 12, pp. 146-151 | Dennis Etchison |
| Steve   | Inner Tennis  
          Bantam, New York | "Kids Learn Faster" | Timothy Callwey and Bob Kriegel |

Figure 1. Self-Selected Passages
Scales to measure attitudes toward reading, English, science, and social studies. The subjects also read one selection following the Reading Miscue Inventory procedures and the retrospective miscue procedures.

Subjects are asked to comment on the researcher's instructions and any difficulty they encounter with the instruments or procedures. Their responses enable the researcher to refine and clarify the instructions, question techniques, and to develop greater competence using the reading and retrospective miscue procedures with junior high school students.

General Procedures for This Study

Collection of Data

Each subject participates individually in five sessions with the researcher. Thus there are 30 sessions for the total study.

The first four sessions with each subject take place in a conference room located in the school library. Data are collected in the mornings, late in the school year, to ensure that the subjects are familiar with their school, their teachers' various methods of instruction in each content area, and the materials used in these classes. Each subject meets with the researcher at his/her home for the final interview.

Before the start of the data collection with the students, the researcher observes the subjects during their English, science, and social studies classes. The visits provide information concerning the teachers' use of various content area materials, the purpose for reading as presented by the teachers in each content area, and the kind of
directions the subjects are given before a reading task. Figure 2 shows the sequence of these tasks as given to the subjects.

Session One. The first session starts with a brief discussion to (1) develop a rapport between the researcher and the subjects and (2) provide the subjects with a brief explanation of the study. The Burke Reading Interview is then administered.

In the second part of this session, the subjects complete a series of scales in writing to measure their attitudes toward reading in general, social studies, science, and English developed by Estes, Johnstone, and Richards (1975). The initiating discussion and the Burke Reading Interview are audio tape recorded but the second section of this session is not recorded on tape. At the conclusion of each interview, the researcher immediately completes a brief report that outlines observations or insights gained during the interview that might not be captured on tape or through the answers to the interview questions.

Procedures During Sessions Two Through Five. In each of the remaining sessions, the subjects are asked to read orally selected passages from one of the following content areas: social studies, science, English, in a school setting, and a self-selected passage in a non-school setting. The readers are informed that each reading will be followed by a retelling. This retelling is done following the suggested format of miscue analysis (Y. Goodman and Burke 1976). During two of the sessions the retrospective miscue procedure is followed (see Figure 2 for the sequence of tasks).
<table>
<thead>
<tr>
<th>Subject</th>
<th>Session I</th>
<th>Session II</th>
<th>Session III</th>
<th>Session IV</th>
<th>Session V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>Burke Reading Interview</td>
<td>Reading of Social Studies Assignment Practice Retrospective Miscue Procedure</td>
<td>Reading of Science Assignment Retrospective Miscue Procedure</td>
<td>Reading of Literature Self-Assignment</td>
<td>Self-Selected Reading</td>
</tr>
<tr>
<td>Robert</td>
<td>Burke Reading Interview Estes Attitude Scales</td>
<td>Reading of Social Studies Assignment Practice Retrospective Miscue Procedure</td>
<td>Reading of Social Studies Assignment Retrospective Miscue Procedure</td>
<td>Reading of Literature Self-Assignment Estes At</td>
<td>Self-Selected Reading</td>
</tr>
<tr>
<td>Jane</td>
<td>Burke Reading Interview Estes Attitude Scales</td>
<td>Reading of Social Studies Assignment Practice Retrospective Miscue Procedure</td>
<td>Reading of Social Studies Assignment Retrospective Miscue Procedure</td>
<td>Reading of Literature Self-Assignment</td>
<td>Self-Selected Reading</td>
</tr>
<tr>
<td>Tim</td>
<td>Burke Reading Interview Estes Attitude Scales</td>
<td>Reading of Literature Assignment Practice Retrospective Miscue Procedure</td>
<td>Reading of Science Assignment Retrospective Miscue Procedure</td>
<td>Reading of Social Studies Assignment</td>
<td>Self-Selected Reading</td>
</tr>
<tr>
<td>Lynn</td>
<td>Burke Reading Interview Estes Attitude Scales</td>
<td>Reading of Social Studies Assignment Practice Retrospective Miscue Procedure</td>
<td>Reading of Science Assignment Retrospective Miscue Procedure</td>
<td>Reading of Literature Self-Assignment</td>
<td>Self-Selected Reading</td>
</tr>
</tbody>
</table>

Figure 2. Sequence of Tasks for Each Subject
<table>
<thead>
<tr>
<th>Subject</th>
<th>Session I</th>
<th>Session II</th>
<th>Session III</th>
<th>Session IV</th>
<th>Session V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve</td>
<td>Burke Reading Interview</td>
<td>Reading of Science Assignment</td>
<td>Reading of Literature Assignment</td>
<td>Reading of Social Studies Assignment</td>
<td>Self-Selected Reading</td>
</tr>
<tr>
<td></td>
<td>Estes Attitude Scales</td>
<td>Practice Retrospective Miscue Procedure</td>
<td></td>
<td>Retrospective Miscue Procedure</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2.--Continued
Each session begins with a brief discussion to inform or remind the subjects of the procedures that will be followed. The researcher assumes the role of the English, science, or social studies teacher, depending on the passage being used in the session. To gain insight into the subjects' views about the purpose for the assigned reading, the researcher gives the subjects the same instructions that the content area teachers indicated they would use for these lessons.

The following section provides information gathered from each teacher and from the researcher's classroom observations about the teacher's purpose for each assignment presented in the sessions. This is followed by questions the researcher asks the students to gain insight into the students' views about the teacher's purpose for the assignments.

English-Literature

The English teacher is completing a series of stories, poems, and novels dealing with spring and summer activities. The proposed baseball strike becomes an item of discussion and concern with the students during the unit. The teacher chooses this short story to supplement the other stories and poems. Usually, the students read such assignments silently in class, or at home. The teacher suggests that this story will be read for enjoyment since the students indicate an

3. The major league baseball players threatened a strike during the first month of the 1980 baseball season. May 22 was the strike date set by the players if a new Basic Agreement and pension plan were not agreed upon. Eleven hours before the proposed strike, Marvin Miller, the executive director of the Major League Players Association, signed a new agreement with the owners, averting the strike.
interest in baseball. Written assignments will not be given for this story. The students often refer to such selections later in classroom discussions.

The researcher asks questions such as, "Kim, why would you be reading this story?" or "Tim, what is the purpose for reading this short story?" to determine the subjects' view of the purpose for reading the selected literature passage.

Social Studies

The social studies teacher assigns the chapter dealing with different kinds of power as a homework assignment. In the next class, the students will be discussing power and how it relates to their particular lives. The students read this chapter to gain information about power in order to participate in the discussion. The researcher asks questions such as, "Robert, why were you assigned to read the social studies chapter as homework?" or "Jane, what was the purpose of reading this social studies chapter as homework?" to determine the subjects' view of the purpose for reading this social studies passage.

Science

The science teacher has the students read and discuss the chapter dealing with the interrelationship between plants and animals in class. In the next science class, the students will be making charts and diagrams to illustrate the relationships between plants and animals. This chapter is read to learn about these relationships.

The researcher asks questions such as, "Steve, why would you be reading this science passage in class?" or "Lynn, what is the purpose
for reading this science passage in class?" These questions are used to determine the subjects' view of the purpose for reading this science passage in class.

Self-Selection

Each subject in this study also reads a self-selected passage in a non-school setting. The researcher asks the subjects two questions dealing with self-selected materials, such as, "Kim, why do you choose to read this article?" and "Jane, what is your purpose for reading this article?" to determine the subjects' motives for selecting the passage and their purpose for reading the article or section of a novel.

After the initial questioning to determine the purpose, subjects read orally the selected passage without interruption or assistance from the researcher. During the reading, the researcher marks the subjects' miscues on a worksheet. Upon completion of the reading, the subject retells the passage without interruption. Probing questions, depending on the particular material, such as "Why do you think Pappas wanted to pitch for the Mets?" or "Why do you think the author wrote this chapter dealing with power?" or "Can you describe the input-output needs of plants?" are used by the researcher to encourage the subjects to elaborate on information supplied by the student during the uninterrupted portion of the retelling. The entire interview is recorded on tape for further analysis.

Retrospective Miscue Procedures

To obtain retrospective information, immediately after the retelling of the selected passage, the tape is rewound to the start of
the oral reading. The subject and the researcher follow the passage in
the text silently while they listen to the playback. Whenever the
subject identifies a miscue, the tape recorder is stopped. A second
tape recorder is used to record the responses each subject makes to
his or her miscues. If necessary, the initial tape is replayed several
times. Questions such as "Why do you think you made that miscue?" or
"Why did you change that word?" are used to discover the subjects'
thoughts during the reading.

In her investigation of college readers, Raisner (1978) raises
some questions concerning the subjects' ability to identify miscues.
Therefore, for the present study, the researcher conducts two sessions
to obtain retrospective information. During the first session, the
researcher discusses with the subject the different kinds of miscues
anyone can make when reading. The subject then listens to the replay
of the tape while following the passage in the text. When the subject
identifies a miscue, the tape recorder is stopped. The subject is asked
to identify the miscue and to comment on his or her thinking during the
initial reading. Results from the first retrospection are not analyzed
for this study but are used to give the subjects practice in the
technique. The miscue retrospection analysis in this study is the
subjects' second attempt with this technique (see Figure 2). The
researcher selects the passages for the retrospective miscue procedure.
Care is taken that each pair of readers (efficient, average, and
developing) do not follow these retrospective procedures with the same
content area (see Figure 2) in order to obtain retrospective responses
from subjects with similar ability while reading in the different content areas of literature, science, or social studies.

Analysis of Data

The next section of this chapter discusses the instruments, Burke Reading Interview, Estes Attitude Scales, miscue retrospective techniques, and miscue analysis, specifically the Reading Miscue Inventory: Evaluation Form, that are used to analyze the data from this study.

In general these instruments are selected because they lend themselves to natural settings and provide greater depth into the attitudes, personal models of the reading process, and reading strategies of readers than traditional standardized tests do. All of these measures have been used in other research studies and their significance established.

Data from the interviews including the subjects' purposes for reading, their personal models of the reading process, attitudes toward reading, and the content areas of English, science, and social studies, the effect of self-selection of materials on reading in different settings are described and analyzed in relation to the subjects' reading strategies. Emphasis is placed upon the major questions described earlier in this chapter.

Burke Reading Interview

The Burke Reading Interview (see Appendix A) is used to elicit the subjects' personal models of the reading process. Designed as a
standardized interview, this instrument is used to ask the subjects a series of open-ended questions. The subjects decide on the unit of focus, for example, letters, words, or larger than word units, because of the generalized terminology used by the instrument. For example, the first question asks, "When you are reading and you come to something you don't know, what do you do?" This question is ambiguous and allows the subject to reply with answers such as: "read the sentence again," or "sound out the word." Aspects which the Burke Reading Interview reveal include:

1. The strategies the subjects believe they use when they come to something they do not know in their reading in a school or non-school setting.
2. The subjects' identification of a good reader and the qualities that make a good reader.
3. Strategies they believe good readers use when they come to something they do not know in a school and non-school setting.
4. Strategies the subjects would use to help a person having difficulty reading.
5. What the subjects think their teacher would do to help a person having difficulty reading.
6. The subjects' recollections concerning their learning to read.
7. What the subjects would like to do better as readers.
8. The subjects' view of themselves as readers.
These aspects are used to gain insight into whether the subject has a phonics, word-oriented, or whole language view of the reading process.

The Burke Reading Interview does not specify the reading of materials in different settings. Since this research is concerned with reading in two different settings, additional questions were added to determine any differences or similarities in the subjects' view of reading in a school or non-school setting. The question number indicates the number on the Burke Reading Interview to which the addition has been made.

1. What would happen if you were outside of school and you came to something you did not know, what might you do?

6. What if he (the teacher) were not in school, what would he do?

9. If you were not in school, how would you help that person?

13. What kind of things do you read outside of school?

14. How would you compare reading in school and outside of school?

15. How would you compare reading materials you select and those the teacher gives you to read?

The subjects are asked the questions orally and the responses are recorded on audio tape. These are then transcribed onto a form which includes the questions and the subjects' responses.

Differences and similarities among subjects' responses are compared to results from the other instruments used in this study for each individual, and for the six subjects together. Differences among paired ability groups and sexes are noted as appropriate.
Kerlinger (1973, p. 479) suggests that "the interview is perhaps the most ubiquitous method of obtaining information from people." The research interview involves "a two person conversation initiated by the interviewer for the specific purpose of obtaining research relevant information" (Cannell and Kahn 1968, p. 527). The research interview is recognized as an effective device for collecting data from early adolescents. Subjects during these years have an intellectual curiosity and are able to recall their thoughts, ideas, and past experiences (Rich 1968).

Stansell (1977) examines grade nine students' perceptions of their reading process and the reading strategies they use with narrative and expository materials. He uses a modified version of the Burke Reading Interview, introspection-retrospection, and miscue analysis to collect and analyze the data. Each subject is interviewed about his or her own reading strategies, asked to read and retell an expository and a narrative passage, and questioned about his or her perceptions of the differences in the two selected passages.

Stansell reports that these subjects have generally a word-oriented view of the reading process. They produce with the expository selection fewer miscues and more miscues that do not interfere with meaning. Low retelling scores indicate an inadequate conceptual base or low reader proficiency.

Stansell finds these interview questions to be an appropriate method for collecting data about a subject's perceptions of the reading process and their own reading strategies.
Estes Attitude Scales

The Estes Attitude Scales (Estes et al. 1975) consist of five scales to assess attitudes in the content areas: English, mathematics, reading, science, and social studies. The mathematics attitude scale is not used in this study since subjects do not read a mathematics selection. Each scale consists of 15 Likert-type items. On the answer sheet subjects rate each item on a scale from 1 "I strongly disagree" to 5 "I strongly agree." If students have "mixed feelings" or "cannot decide," then they are encouraged to mark 3 "cannot decide." Students are asked to express their true feelings. Each section of the Estes Attitude Scales may be administered separately, or they may all be administered at the same session. The researcher is permitted to read or briefly explain an item to a student who cannot read or understand a specific item.

Scoring of the Estes Scales. Some items on each scale are positively worded: "Social studies is interesting," and some are negatively worded: "Almost any subject is better than English." Positive items receive a score on a 1-5 scale as marked. Students' negatively worded ratings are scored in reverse:

<table>
<thead>
<tr>
<th>Marked</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
| 1      | 5     | (Estes et al. 1975, p. 5)
Each scale has a range of scores between 15 and 75. For this study, scores are converted so that a perfect score would equal 100. Therefore, in this investigation scores for each scale have a range from 20 to 100. The authors caution that a percentage score above some arbitrary level does not indicate a superior attitude. Students with higher scores on the scales have generally demonstrated a more favorable attitude toward a subject than students with lower scores.

The *Manual for Administration and Interpretation* (Estes et al. 1975) provides impressive data to demonstrate substantial reliability, and extensive data for content, factorial, convergent, and divergent validity.

In an extensive review of instruments designed to assess reading attitudes, Summers (1977, p. 152) considers the *Estes Attitude Scales* a well-developed instrument. He selects the Estes scale as "technically and conceptually the best-developed reading attitude scale to date."

The *Estes Attitude Scales* have been used as a research instrument in several studies. Crews (1978) uses the scales to measure middle school (grades six, seven, eight) students' attitudes toward reading. Law (1977) uses pre- and postmeasures of this instrument to measure middle school students' changes in attitudes toward reading. The researchers find the instrument useful for their purposes.

In this research, all of the four *Estes Attitude Scales* are administered individually to each subject at the same session. These scales are analyzed and described to determine the subjects' attitudes toward social studies, science, English, and reading in general.
Responses to these attitude scales are compared to the results of other instruments used in this study for each subject and for the six subjects together. Differences and similarities among paired ability groups and sexes are noted as appropriate.

Miscue Analysis

Several forms of miscue analysis have been developed to evaluate reading miscues. The Goodman Taxonomy of Reading Miscues, the most complicated and thorough instrument, asks 17 questions of each miscue. The Reading Miscue Inventory was developed by Y. Goodman and Burke (1972) to make miscue theory more accessible to classroom teachers. The Reading Miscue Inventory provides the theoretical background, reduces the number of miscue classifications, describes in detail the miscue procedures, and demonstrates useful strategy lessons.

The Reading Miscue Inventory: Evaluation Form (Y. Goodman and Burke 1976) is the latest form for coding. Although this instrument does not provide the same analysis as that of the RMI, it is used in research to provide an initial description of subjects' reading strategies. Since this study examines reading strategies with different materials, this form is used to code and analyze the subjects' oral reading miscues.

Miscue Procedures

Certain elements with different miscue analysis forms may vary, but the basic methodology and requirements remain the same. K. Goodman and Y. Goodman (1977, p. 320) comment on the necessary requirement for conducting miscue analysis:
The written material must be new to the readers and complete with a beginning, middle and end. The text needs to be long and difficult enough to produce a sufficient number of miscues. In addition, readers must receive no help, probes, or intrusión from the researcher. At most, if readers hesitate for more than thirty seconds, they are urged to guess, and only if hesitation continues are they told to keep reading even if it means skipping a word or phrase. Miscue analysis, in short, requires as natural a reading situation as possible.

Taping a Subject's Reading

The session begins with an explanation of the purpose and procedures. The subject then records his or her name on the tape. This permits the researcher to identify the tape for coding and to check the volume on the recorder. The subject reads the entire selection without interruption while the researcher marks the miscues on a worksheet. At the conclusion of the oral reading, the researcher removes the printed text and the subject retells the selection.

The subject is encouraged to retell the selection in his or her own words. The researcher does not interrupt or ask questions until the subject has completed this task. After this initial response, the researcher asks questions based on the information provided by the subject. Questions such as, "Who else was in the story?" or "Why do you think the author wrote this story" are used to expand the subject's retelling.

The Reading Miscue Inventory: Evaluation Form

This instrument is divided into three sections in order to evaluate reading miscues: I. Language Sense, II. Self Correction, and III. Words in Context.
Miscues per Hundred Words

Miscues per hundred words (MPHW) is a quantitative measure that indicates the frequency of miscues a reader produces that are coded for analysis. This measure is calculated by taking the total number of miscues generated by a reading, dividing by the number of words in a passage, then multiplying by one hundred.

Section I: Does It Make Sense and Is It Language? This section asks three questions to evaluate the degree to which the reader uses the predicting, confirming, and comprehending strategies, the degree to which the reader produces sentences which sound like language, and which make sense within the story. In addition, question three focuses on the degree to which the meaning is changed.

Question I: Syntactic Acceptability:

The first question asks if the sentence involving the miscue, including correction strategies, is syntactically (grammatically) acceptable in the context of the total selection. The answer must be either yes or no. When the sentence as finally produced by the subject is syntactically acceptable, it is marked with a Y = yes on the worksheet. When the sentence as finally produced by the subject is syntactically unacceptable, it is marked with an N = no on the worksheet (Y. Goodman and Burke 1976).

Question II: Semantic Acceptability:

This question asks if the sentence involving the miscue including correction strategies is semantically (in terms of meaning)
acceptable in the context of the total selection. The answer must be either yes or no. When the sentence as finally produced by the subject is semantically acceptable, it is marked Y = yes on the worksheet. When the sentence as finally produced by the subject is not semantically acceptable, it is marked as N = no on the worksheet (Y. Goodman and Burke 1976).

**Question III: Meaning Change:**

This question asks if there is a change of meaning to the text produced by the reader for each sentence. When the sentence as finally produced by the subject results in no change at all to the intended meaning of the selection, it is marked as N = no on the worksheet. When the sentence as finally produced by the subject results in an inconsistency or loss of minor incidents, characters, or sequence in the selection it is marked as P = minimal on the worksheet. When the sentence as finally produced by the subject results in a change, inconsistency, or loss to major incidents, characters, or sequences in the selection, it is marked Y = yes on the worksheet (Y. Goodman and Burke 1976).

**Computing for Section I:**

The number of "Y's" and "N's" are totaled separately for questions one and two. The number of "Y's," "P's," and "N's" are totaled for question three. Each total is separately divided by the number of sentences coded to produce percentage scores for purposes of comparison. The results of Section I include:
1. The percentage of sentences which result in syntactic acceptability.

2. The percentage of sentences which do not result in syntactic acceptability.

3. The percentage of sentences which result in semantic acceptability.

4. The percentage of sentences which do not result in semantic acceptability.

5. The percentage of sentences which result in no meaning change.

6. The percentage of sentences which result in minimal meaning change.

7. The percentage of sentences which result in an extensive meaning change.

Section II: Self Correction. The first 25 consecutive miscues are coded.

This question asks if there is an attempt made to self-correct the miscue. When the miscue is successfully self-corrected, Y = yes is marked on the worksheet. When an attempt is made at self-correction but it is not successful, or the subject abandons a correct attempt, P = partial is marked on the worksheet. When there is no attempt at all to correct the miscue, N = no is marked on the worksheet (Y. Goodman and Burke 1976).

Computing for Section II:

The sum of the "Y's," "P's," and "N's" is divided by the total number of miscues to compute percentages.
The results of Section II include:

1. The percentage of miscues that are successfully self-corrected.

2. The percentage of miscues where an attempt is made at self-correction that is not successful, or when the reader abandons a correction attempt.

3. The percentage of miscues where no attempt is made to correct the miscue.

**Section III: Word Level Substitutions.** The first 25 consecutive miscues are coded. Intonation, complex, insertions, or omission miscues are not coded for these questions. This section examines the ways in which a reader processes word for word substitutions in the text.

**Question V: Graphic Similarity:**

This question asks how much the two words look alike. When two of their three parts are similar, beginning middle, beginning end, middle, and end, the miscue is coded $Y = \text{high}$ on the worksheet. When one of their three parts is similar: beginning or general configuration, middle, end, the miscue is coded $P = \text{some}$ on the worksheet. When none of the three parts is similar, the miscue is coded $N = \text{none}$ on the worksheet (Y. Goodman and Burke 1976).

**Question VI: Sound Similarity:**

This question asks how much do the two words sound alike? When two of their three parts are similar: beginning and middle, beginning and end, middle and end, the miscue is coded $Y = \text{high}$ on the worksheet. When one of their three parts is similar: beginning or general
configuration, middle, or end, the miscue is coded P = some on the worksheet. When none of their three parts is similar, the miscue is coded N = none on the worksheet (Y. Goodman and Burke 1976).

**Question VII: Grammatical Function Similarity:**

This question asks if the grammatical function of the reader's word is the same as the grammatical function of the text word. When the subject's miscue is the same grammatical function as the text word, it is coded Y = same on the worksheet. When it is not possible to tell whether the grammatical function of the subject's miscue is the same or different from the grammatical function of the text, the miscue is coded P = questionable on the worksheet. When the subject's miscue is a different grammatical function than the text word, it is coded N = different on the worksheet (Y. Goodman and Burke 1976).

**Computing Section III:**

The totals for each column in questions V, VI, and VII are divided by the total number of substitution miscues only. This information gives the percentage of substitution miscues for each column. The results of Section III include:

1. The percentage of miscues that have high graphic similarity.
2. The percentage of miscues that have some graphic similarity.
3. The percentage of miscues without any graphic similarity.
4. The percentage of miscues that have high sound similarity.
5. The percentage of miscues that have some sound similarity.
6. The percentage of miscues without any sound similarity.
7. The percentage of miscues that have the same grammatical function as the text.

8. The percentage of miscues where it is not possible to determine whether the grammatical function of the reader's miscue is the same or different from the grammatical function of the text.

9. The percentage of miscues that have a different grammatical function from the text word.

Retelling Scores

Each selected passage has a possible retelling score of 100 points. Before the oral reading the researcher prepares an outline for the retelling.

Narrative Materials

The information in each selection is divided between character development (usually 40 points) and events (usually 60 points). Students also receive credit for additional subtleties or specifics mentioned during the retelling.

Informational-Expository Materials

The Reading Miscue Inventory (Y. Goodman and Burke 1972) suggests that the retelling for these materials be divided according to major concepts, generalizations, and specifics. Points are assigned to each category depending on their importance in the passage. The subjects' retellings are transcribed and the information units provided by the readers are matched to the information units in the outlines prepared for each section.
A trained assistant verifies the marking of the miscues, coding of the miscues, and the retelling scores. All disagreements are resolved by a consultation between the assistant and the researcher. The percentage of difference in all cases in this study is less than three per cent.

Differences and similarities from the miscue analysis using materials from the content areas of social studies, science, literature, and a self-selected passage are compared to results from the other instruments used in the study for each subject and the six subjects together. Differences among paired ability groups and sexes are noted when appropriate.

Retrospective Techniques

Introspective-retrospective techniques, adapted from Bloom and Broder's (1950) study of college students' problem solving processes, ask the subject to "think aloud" during the reading (introspection) or to verbalize their thoughts about their reading immediately after they have completed reading (retrospection). The verbalizations are recorded and later analyzed in a systematic manner.

Strang (1967, p. 36) describes and expresses the advantages of the introspective-retrospective technique:

The essential methods of obtaining psychological data through introspective-retrospective verbalizations include asking the subject to describe the process he has used in reading a given passage, or asking him to think aloud as he reads. In this respect, the psychologist has distinct advantage over the physical scientist: the latter cannot ask a lump of calcium why it behaved as it did. The psychologist can obtain significant information from the subjects of his inquiry.
Reading researchers use modified forms of classical retrospection to study various aspects of the reading process. Of interest to the present study are the investigations of Piekarz (1954), Fareed (1971), Stansell (1977), and Raisner (1978).

Piekarz (1954) examines sixth grade students' interpretative responses to study their thought processes employed during reading. The subjects read an entire expository selection silently and then give an oral summary of the passage. Next, the subjects read from cards that contain segments of the selection, stopping to recall orally their thoughts of each portion during the first reading. Finally the students answer oral comprehension questions. Piekarz concludes that retrospective verbalizations can reveal information about various aspects of the reading process.

Fareed (1971), in his study of students' interpretive responses with history and biology materials, uses a retrospective technique as part of his data collection. As a significant research implication for this investigation Fareed (1971, p. 528) suggests:

The research method employed for securing and analyzing the readers' interpretive responses seems to yield further evidence of the value of using retrospective techniques in investigating the reading process. Adapting this research method for recording and analyzing responses in other reading situations would provide more information needed to illuminate other dimensions of the reading process.

Stansell (1977) uses introspective and retrospection techniques to obtain the subject's perceptions and reactions to a narrative and expository reading selection. Although the subjects do not generally perceive any differences in the selections, the students are able to recall their thinking as they read.
Raisner (1978) uses miscue analysis and retrospection to describe and analyze the reading strategies of adult college students. Each subject reads three selections taken from a sociology, chemistry, psychology, or political science college textbook. A profile sheet is developed for each reader following the miscue analysis procedures. The subjects listen to a replay of each selection and make any comments about the miscues. These retrospective responses are categorized according to the reader's awareness of graphophonic, syntactic, or semantic cues. Raisner reports that these responses support the data collected through the miscue analysis.

Retrospection techniques appear to provide valuable information concerning various aspects of the subjects' reading and thinking processes. These researchers also caution about the limitations of these techniques. Subjects vary in their ability and willingness to verbalize their thought processes. Verbalization might only represent a part of the thinking process and could inhibit thought. The present investigation uses a form of retrospection similar to Raisner's.

The retrospective responses from one selected passage for each subject are described and analyzed to indicate:

1. To what degree the subjects recognize their own miscues.
2. The different ways they characterize their own miscues.
3. Responses that indicate the subjects' models of the reading process.
4. Differences in the subjects' responses to their own miscues that are:
   a. syntactically acceptable or unacceptable;
b. semantically acceptable or unacceptable;
c. involved with major, minor, or no meaning change;
d. successfully, partially, or not corrected by the reader;
e. graphically similar;
f. similar in sound;
g. the same in grammatical function.

This chapter sets forth the design of this investigation. The assumptions and limitations of this study are listed. The researcher presents the research questions that are used to fulfill the purposes of this research. This chapter also provides an account of the selection of the subjects, the reading passages, and the general procedures for this study. The final section gives the details of the analysis of the data.
CHAPTER 4

OVERALL RESULTS

This study investigates the reading strategies employed by six selected junior high school students while reading social studies, science, literature, and a self-selected passage in and out of school. The research also examines the subjects' purposes for reading, their personal models of the reading process, and their attitudes toward reading itself, as well as toward the curricular areas of social studies, science, and literature.

To discover, describe, and analyze interrelationships among these variables, answers to the following questions are sought:

I. Do students employ different reading strategies with differing curricular materials?

II. Do common reading strategies exist for different written materials, or do the strategies vary according to specific reading assignments or tasks?

III. Do students' attitudes toward reading or a specific discipline influence their reading strategies?

IV. How do students view reading in school as compared to reading in a non-school setting?

V. Do students' purposes for reading affect their individual reading strategies?

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VI. Does self-selection as compared to teacher assignment of materials affect students' reading strategies?

To address these questions, data are collected from six junior high school readers. Based on their teachers' evaluations and the reading subtest of the Comprehensive Test of Basic Skills (1974), two efficient readers (Kim and Robert), two average readers (Jane and Tim), and two developing readers (Lynn and Steve) are identified for this study.

Each of these subjects completes the Burke Reading Interview and the Estes Attitude Scales. They read a passage from the social studies, science, and literature textbooks in a school setting. They also read a self-selected passage at their homes. Miscue analysis procedures are followed with each of the selected passages. Retrospective miscue responses are recorded for each subject from one of the content area reading passages. This chapter presents the findings of the study. The data are discussed under each research question.

Research Question I

On the basis of miscue analysis procedures, to what degree do students employ different reading strategies with differing curricular materials (social studies, science, literature, and self-selection)?

Seven subsidiary questions set forth the data from miscue analysis.

1-1. Do readers produce miscues that result in different percentages of syntactically and semantically acceptable sentences with differing curricular materials?
Syntactic acceptability indicates whether the sentences involving the miscues and correction strategies are syntactically acceptable in the context of the total passage. Every sentence the subject reads is coded for syntactic acceptability.

The sentence below is an example of one that is coded $Y$ for syntactic acceptability:

It was the only place she could go to think straight.

The following sentence is not syntactically acceptable and is coded $N$.

It also changes as people develop new skills and abilities.

Semantic acceptability indicates whether the sentence involving the miscues and correction strategies is semantically acceptable in the context of the total passage. Sentences must be syntactically acceptable to be considered semantically acceptable following miscue procedures.

Below is an example of a sentence coded $Y$ for semantic acceptability.

What do you think would happen if all plant consumers in an area were suddenly killed?

The following sentence is not semantically acceptable and is coded $N$.

4. Substitutions—a substituted word or phrase is written over the text word or phrase.

5. Partial correction—the reader started to make a response and self-corrected $\Theta$ before the response was completed.

6. An omission is indicated by circling the word, words, or parts of words.
So you must accept part of the responsibility for keeping things in balance.

Table 1 summarizes the findings relative to syntactic and semantic acceptability for the six subjects reading the social studies, science, literature, and self-selection passages. Miscues per hundred words (MPHW) indicate the frequency of miscues per hundred words each reader produces that are coded for analysis.

In this study the mean is an average of the subjects' percentages for each miscue category with the different reading materials. The range displays the difference between the lowest and highest percentages for each miscue category with the different materials.

Table 2 displays the means and ranges of the total percentages of syntactically acceptable and semantically acceptable sentences including corrections for all the selections read in this study for each subject. The percentages in Table 2 are not particularly meaningful since they are a combination of percentages for all the selections. They do, however, provide a norm for each subject for comparison purposes. These data also support the original selection process of the individual student in terms of overall reading proficiency.

What is significant, however, is that regardless of overall proficiency a mean of at least 75.2% of the sentences generated by any of the subjects results in syntactic and semantic acceptability with the difference among the efficient, average, and developing readers ranging from 67% to 100%. This indicates that even the developing readers are producing acceptable sentences at least 67% of the time and
Table 1. Summary of the Percentages for Syntactic and Semantic Acceptability

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Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
### Acoustic and Semantic Acceptability

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Lynn, S = Steve.
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Table 2. Syntactically and Semantically Acceptable Sentences: Means and Ranges

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<td>Steve</td>
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in most cases over 80% of the time. The total means of syntactically acceptable sentences including corrections for the three female subjects are: Kim 99.2%, Jane 91.7%, and Lynn 88.7%. The total means of the male subjects for the same category are: Robert 94.5%, Tim 93.7%, and Steve 84.0%. However, their semantic acceptability means have a greater range from Lynn (80.0%) to Kim (98.7%), and from Steve (75.2%) to Robert (92.2%).

The findings also demonstrate that although Kim has the highest semantic and syntactic acceptability percentages with the narrowest range for each type of material, the rank order varies for the other subjects. Although Robert, an efficient reader, is usually second highest in percentages, Tim, an average reader, produces 96% syntactic acceptability on social studies material. Despite the fact that Lynn and Steve, the developing readers, most often have the lowest percentages of syntactic and semantic acceptability (see Table 1), Lynn produces 96% syntactically acceptable sentences and 88% semantically acceptable sentences on her self-selected passage. This score is higher than those produced by Robert, Jane, Tim, and Steve on their self-selection materials. Steve is able to produce syntactically and semantically acceptable sentences on the science passage which is close to the percentage which Tim, an average reader, produced.

For the efficient readers (Kim and Robert), the range of the percentages in each category varies only slightly with the different texts (syntactic acceptability range 2% and 3% respectively, semantic acceptability 2% and 5% respectively). In comparison all the other readers' ranges of percentage are wider from 10% to 18%.
In reading some materials, notably literature, the percentage differences among subjects are indeed slight regardless of proficiency with only a 7\% range for syntactic acceptability and an 18\% range for semantic acceptability. In comparison, for the social studies passage the range for syntactic acceptability is 21\% and semantic acceptability is 25\%. Four of the six readers have their lowest MPHW and their highest percentages of syntactic and semantic acceptability on the literature selection. Since the other subjects do well on this selection also, we can conclude that the literature text is relatively easy thus reducing differences among readers of varying abilities. On the other hand, while two readers (Robert and Jane) have their lowest MPHW on the science selection and relatively high syntactic and semantic acceptability on it also, two other readers (Tim and Lynn) have their highest MPHW and lowest syntactic and semantic acceptability percentages with this passage. This is some indication of variability to read science materials only partly caused by variation in reading ability.

We can conclude that these readers produce differing percentages of syntactically and semantically acceptable sentences, and these vary both in range and rank order depending on the materials being read.

I-2. Do readers produce miscues that result in different percentages of changes in meaning from the author's text with differing curricular materials?

Changes in meaning indicate the degree to which each sentence as produced by the reader changes the intended meaning of the passage.
Since there is no change at all to the intended meaning of the passage, the following sentence is coded \( N \).

Finally a tall, sad-faced man came out of a side office and looked into Pappas' steady brown eyes.

The sentence below includes miscues that result in a minimal change in meaning and is coded \( P \).

When Murphy shot him a hard glance to see if he was being smart, Pappas looked down at his black, pointy shoes.

The sentence below contains miscues that result in major changes in meaning and is coded \( Y \).

While a dozen newspapermen and photographers watched, he strode onto a scruffy pitching mound and put everything in his slight body behind the baseball he threw at Bill Whalen, a young catcher from the Met's camp.

The percentages of sentences including correction with no change at all to the intended meaning, minimal meaning change, or major meaning change for the six subjects reading the social studies, science, literature, and self-selected passages are shown in Table 3.

Table 4 displays the combined means and ranges for each subject for all the selections in this category.

Results of analysis for this miscue question reveal a mean of at least 73.5% of all the sentences as finally produced by these

7. A circle around a word part, word or phrase indicates an omission.

8. \( \bar{c} \) indicates a corrected substitution.

9. A \( \wedge \) indicates an insertion. In this case the insertion is a period.
Table 3. Summary of the Percentages for Meaning Change

<table>
<thead>
<tr>
<th></th>
<th>Social Studies</th>
<th>Science Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>K R J T L S</td>
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<tr>
<td>Number of Sentences</td>
<td>136</td>
<td>105</td>
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<tr>
<td>Miscues per Hundred Words</td>
<td>0.8 5.3 4.6 5.6 6.5 8.1</td>
<td>1.8 4.2 3.3 9.0 9.4</td>
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<tr>
<td>Meaning Change:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentages of Total Sentences Including Correction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>99 91 83 94 77 73 100 91 88 86 64</td>
<td></td>
</tr>
<tr>
<td>Minimal</td>
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<td></td>
</tr>
<tr>
<td>Major</td>
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<td></td>
</tr>
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</table>

Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
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<td>1.3 4.9 5.4 7.8 9.1 6.6</td>
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<tr>
<td>64 76 98 91 92 94 85 78 100 84 81 81 85 67</td>
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<tr>
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<tr>
<td>27 19 0 5 4 3 12 12 0 2 13 7 7 25</td>
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</table>
Table 4. Meaning Change: Means and Ranges

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<th></th>
<th>Minimal</th>
<th></th>
<th></th>
<th>Major</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Range</td>
<td>Difference</td>
<td>Mean</td>
<td>Range</td>
<td>Difference</td>
<td>Mean</td>
<td>Range</td>
<td>Difference</td>
</tr>
<tr>
<td>Kim</td>
<td>99.2</td>
<td>98-100</td>
<td>2</td>
<td>.7</td>
<td>0-2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Robert</td>
<td>89.2</td>
<td>84-91</td>
<td>7</td>
<td>6.2</td>
<td>2-14</td>
<td>12</td>
<td>4.5</td>
<td>2-7</td>
<td>5</td>
</tr>
<tr>
<td>Jane</td>
<td>86.0</td>
<td>81-92</td>
<td>11</td>
<td>5.5</td>
<td>4-6</td>
<td>2</td>
<td>8.5</td>
<td>4-13</td>
<td>9</td>
</tr>
<tr>
<td>Tim</td>
<td>88.7</td>
<td>81-94</td>
<td>13</td>
<td>5.5</td>
<td>2-12</td>
<td>10</td>
<td>5.7</td>
<td>3-9</td>
<td>6</td>
</tr>
<tr>
<td>Lynn</td>
<td>77.7</td>
<td>64-85</td>
<td>21</td>
<td>6.2</td>
<td>3-9</td>
<td>6</td>
<td>16.0</td>
<td>7-27</td>
<td>20</td>
</tr>
<tr>
<td>Steve</td>
<td>73.5</td>
<td>67-78</td>
<td>11</td>
<td>9.0</td>
<td>5-13</td>
<td>8</td>
<td>17.5</td>
<td>12-25</td>
<td>13</td>
</tr>
</tbody>
</table>
readers with different curricular materials result in no change at all to the intended meaning of the passages. This indicates that each of these readers is generating sentences that do not change the intended meaning of the text at least 64% of the time, and usually over 75% of the time (see Table 3). Kim and Robert, the efficient readers, have higher total mean (99.2% and 89.2%) scores that result in no change to the intended meaning than the average and developing readers. The data also demonstrate that Jane and Tim, the average readers, have higher total means than Lynn and Steve, the developing readers.

An analysis of the specific passages, however, produces findings for this category similar to those for syntactic and semantic acceptability. With the exception of one subject, Kim, who has the highest percentages of no change to the intended meaning with each type of material, the rank order of the other subjects varies with the different materials. While reading the social studies selection, 94% of the sentences that Tim produces result in no change to the intended meaning. This percentage is higher than those produced by Robert (91%), Jane (83%), Lynn (77%), and Steve (73%) but lower than Kim's percentage (99%). On the self-selected passage Lynn, one of the developing readers, produces no change to the intended meaning 85% of the time, higher than all other subjects except Kim (see Table 3).

The ranges of the percentages for no change to the intended meaning with the different materials for each subject are from 2% to 13%, with the exception of Lynn (see Table 3). She produces more sentences that result in major changes of meaning with the expository passages (social studies 18%, science 27%) than with the narrative
materials (literature 12%, self-selection 7%). Again following the pattern seen by the analysis of semantic and syntactic acceptability, the efficient readers show less range from one type of reading material to another than the other readers for this miscue question. Kim and Robert's ranges are 2% and 7% respectively, while the other subjects range from 11% to 21%.

Similar to the percentage of syntactic and semantic acceptability, the literature selection shows the narrowest range for all the subjects in both no meaning change (20% range) and major meaning change (12% range) as compared to the materials for the other curricular areas. Five of the six subjects produce their highest per cent of no change to the intended meaning on this passage. Therefore, individual students vary in both range and rank order in the degree of meaning change from the author's text with different materials.

I-3. Do readers' percentages of self-correction of miscues vary with different curricular materials?

Self-correction indicates whether an attempt is made to self-correct the miscue.

The miscue in the following sentence is successfully self-corrected.

How much power do you have?

In the next sentence, the reader makes an unsuccessful attempt at self-correction.

10. indicates the correcting of a miscue.
2-3 What direct effects do you think the living things shown in Figure 2-1 have on one another?

In the sentence below there is no attempt to self-correct the miscues.

Plants take carbon dioxide (CO₂) and some oxygen from the atmosphere.

The percentages of miscues successfully corrected, unsuccessful attempts at correction, or not corrected by the six subjects reading the social studies, science, literature, and self-selection passages are presented in Table 5.

The means and ranges for the subjects' percentages of successfully self-corrected, unsuccessful attempts at correction, and no correction of the miscues are shown in Table 6.

Data from the miscue analysis (Tables 5 and 6) reveal that the subjects' percentages of successful self-correction varies for the social studies, science, literature, and self-selection passages. The percentages of successful self-correction with one exception vary less than 15% with the different materials, although the individual subjects' ranges vary from 3% difference to 39% difference. Jane's pattern of successful self-correction (social studies 29%, science 50%, literature 40% and self-selection 11%) fluctuates even more considerably with the different curricular materials.

As an efficient reader, Kim generates fewer than three miscues per hundred words while reading the different selections. Furthermore

11. [ ] indicates an unsuccessful attempt at correction.
Table 5. Summary of the Percentages for Self-Correction

<table>
<thead>
<tr>
<th></th>
<th>Social Studies</th>
<th>Science Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>K   R   J   T   L   S</td>
<td>K   R   J   T   L</td>
</tr>
<tr>
<td>Number of Sentences</td>
<td>136</td>
<td>105</td>
</tr>
<tr>
<td>Miscues per Hundred Words</td>
<td>0.8  5.3  4.6  5.6  6.5  8.1</td>
<td>1.8  4.2  3.3  9.0  9.4</td>
</tr>
<tr>
<td>Percentage of Total Miscues:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9   51  29  44  21  22</td>
<td>11  53  50  32  8</td>
</tr>
<tr>
<td>Unsuccessful or Abandoned</td>
<td>0   0   0   2   6   3</td>
<td>0   3   6   3   5</td>
</tr>
<tr>
<td>No</td>
<td>91  49  71  54  73  75</td>
<td>89  44  44  65  87</td>
</tr>
</tbody>
</table>

Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
<table>
<thead>
<tr>
<th>Reference</th>
<th>Literature</th>
<th>Self-Selection</th>
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<td>T L S</td>
<td>K R J T L S</td>
<td>K R J T L</td>
</tr>
<tr>
<td>112</td>
<td>87 83 79 87 85 51</td>
<td></td>
</tr>
<tr>
<td>9.0 9.4 7.5 2.6 4.2 4.6 5.2 5.8 5.4</td>
<td>1.3 4.9 5.4 7.3 9.1 6.6</td>
<td></td>
</tr>
<tr>
<td>32 8 25</td>
<td>8 41 40 43 19 17</td>
<td>10 38 11 30 22 17</td>
</tr>
<tr>
<td>3 5 3</td>
<td>0 2 2 0 8 3</td>
<td>0 0 0 3 5 2</td>
</tr>
<tr>
<td>65 87 72</td>
<td>92 57 58 57 73 80</td>
<td>90 62 89 67 73 81</td>
</tr>
<tr>
<td>Subject</td>
<td>Successful Self-Correction</td>
<td>Unsuccessful Attempt at Correction</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>Range</td>
</tr>
<tr>
<td>Kim</td>
<td>9.5</td>
<td>8-11</td>
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<td>Jane</td>
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<td>11-50</td>
</tr>
<tr>
<td>Tim</td>
<td>37.2</td>
<td>30-44</td>
</tr>
<tr>
<td>Lynn</td>
<td>17.5</td>
<td>8-22</td>
</tr>
<tr>
<td>Steve</td>
<td>20.2</td>
<td>17-25</td>
</tr>
</tbody>
</table>
no less than 98% of the miscues are semantically acceptable. Therefore, this subject has few corrections to make while reading.

In comparison, Robert, Jane, and Tim produce a moderate number of miscues while reading the different materials (see Table 5). These subjects, however, have a high total mean of successfully corrected miscues (Robert 47.7%, Jane 32.5%, and Tim 37.2%). These subjects' corrections are a major contribution to their success in maintaining semantic acceptability. Robert has 5.7 MPHW on the social studies passage compared to Kim's .8 MPHW, yet he achieves 93% semantic acceptability. Lynn and Steve also generate a moderate number of miscues (see Table 5). But the total means of successfully self-corrected miscues is lower for these subjects (Lynn 17.5%, Steve 20.2%).

These findings indicate that all of these subjects use correcting strategies to regress, gather additional information, and recover meaning. The data also reveal that with the exception of Kim, the efficient and average readers have higher total means of successfully corrected miscues than Lynn and Steve, the developing readers.

Further analysis of the results of the six subjects' patterns of successful self-correction indicate similar means scores: social studies (29.3%), science (29.8%), literature (24.0%), and self-selection (21.3%) of successfully self-corrected miscues with the curricular materials. But these percentages should not conceal the individual variation for each subject. Therefore, the readers' percentages of self-correction of miscues vary with different curricular materials.
I-4. Do readers produce different percentages of miscues with graphic similarity, sound similarity, or grammatical function similarity with differing curricular materials (word for word substitutions only)?

Graphic similarity indicates to what degree the two words look alike.

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<tr>
<th>High:</th>
<th>Expected Response</th>
<th>Observed Response</th>
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</thead>
<tbody>
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<td></td>
<td>would</td>
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<td>back</td>
</tr>
<tr>
<td></td>
<td>we</td>
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</table>

Table 7 summarizes the findings relative to graphic similarity for the six subjects reading the social studies, science, literature, and the self-selection passages.
Table 7. Summary of the Percentages for Graphic Similarity

<table>
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<tr>
<th></th>
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<td>Number of Sentences</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Miscues per Hundred Words</td>
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<td>.8 5.3 4.6 5.6 6.5 8.1</td>
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<td>0 10 12 20 24</td>
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Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
<table>
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<th>Self-Selection</th>
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<td>2.6 4.2 4.6</td>
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</tr>
<tr>
<td>S</td>
<td>112</td>
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<td>7.8 9.1 6.6</td>
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<td>92 80</td>
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<tr>
<td></td>
<td>8 12 4</td>
<td>4 12 4</td>
</tr>
</tbody>
</table>
The means and ranges of the percentages of miscues with graphic similarity produced by the six subjects with the different curricular materials are shown in Table 8.

Results presented in Tables 7 and 8 illustrate that a mean of at least 57.0% and in most cases over 60% of the miscues produced by these subjects while reading the different curricular materials have high graphic similarity. The difference in percentages among the efficient, average, and developing readers ranges from 40% to 100%. The total means of high graphic similarity for the female subjects are: Kim (76.7%), Jane (57.0%), Lynn (68.0%). The total means for the male subjects for the same category are: Robert (61.7%), Tim (68.0%), and Steve (76.0%). If the total for the "some graphic similarity" category is added to "high graphic similarity" category then graphic cues are being utilized by all students on all materials at least 72% of the time.

The data also signify, however, that the subjects generate different percentages of miscues with high graphic similarity while reading the different materials. Robert, an efficient reader, has the following percentage of miscues with high graphic similarity: social studies (48%), science (75%), literature (60%), and self-selection (64%). Tim, as an average reader, has the following percentage of miscues with high graphic similarity: social studies (52%), science (72%), literature (80%), and self-selection (68%).

For subjects such as Robert and Jane the ranges of percentages of high graphic similarity vary 27% and 16%. In comparison, the ranges for Lynn and Steve for the same category are 44% and 40%.
Table 8. Graphic Similarity: Means and Ranges

<table>
<thead>
<tr>
<th>Subject</th>
<th>High Graphic Similarity</th>
<th>Some Graphic Similarity</th>
<th>No Graphic Similarity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Range</td>
<td>Difference</td>
</tr>
<tr>
<td>Kim</td>
<td>76.7</td>
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<td>60</td>
</tr>
<tr>
<td>Robert</td>
<td>61.7</td>
<td>48-75</td>
<td>27</td>
</tr>
<tr>
<td>Jane</td>
<td>57.0</td>
<td>48-64</td>
<td>16</td>
</tr>
<tr>
<td>Tim</td>
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<td>52-80</td>
<td>28</td>
</tr>
<tr>
<td>Lynn</td>
<td>68.0</td>
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<td>Steve</td>
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<td>52-92</td>
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</table>
The results also indicate that the rank order of the subjects' percentages for high graphic similarity vary with the different materials. Steve has the highest percentages of high graphic similarity for the social studies (52%) and self-selection (80%) passage but only the third highest percentage for the literature (80%). Lynn has the highest percentage for the literature story (92%) and the lowest percentage (52%) for the science passage. Kim is lowest on social studies (40%) and highest on science (100%); Robert shows a similar pattern (48% and 75%). These findings could indicate that these proficient readers have more cautious strategies on the science passage than on the social studies.

The rank order also varies when compared with the results for syntactic acceptability, semantic acceptability, and meaning change for each reading material. While reading the social studies passage, Kim has the highest percentage for the following categories: syntactic acceptability (100%), semantic acceptability (99%), and no change to the intended meaning (99%), but the lowest percentage (40%) of miscues with high graphic similarity.

Lynn's results also demonstrate this finding. With the literature story she ranks fifth for syntactic acceptability (94%), fifth for semantic acceptability (84%), and fifth for no change to the intended meaning (85%). Lynn also has the highest percentage (92%) of miscues with high graphic similarity while reading the literature passage. Thus the readers produce different percentages of miscues with graphic similarity with differing curricular materials.
Sound similarity indicates to what degree two words sound alike.

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</tr>
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<td>also</td>
</tr>
<tr>
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<td>the</td>
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The percentages of miscues with sound similarity generated by the six subjects while reading the social studies, science, literature, and self-selection passages are displayed in Table 9.

The means and ranges for the subjects' percentages of miscues with high, some, and no sound similarity are shown in Table 10.

Analysis of this miscue question indicates that a mean of at least 46% of the miscues produced by any of these subjects have high sound similarity with the differences in percentages ranging from 32% to
Table 9. Summary of the Percentages for Sound Similarity

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Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
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</table>
100%. This finding indicates that the efficient, average, and developing readers are generating miscues with high sound similarity while reading the different materials at least 32% of the time and in half of the instances over 50%. If the category of "some sound similarity" is added to the category of "high sound similarity" then the sound cueing system is used 52% of the time for all subjects on all materials.

The total means of high sound similarity for the female subjects are: Kim (81.7%), Jane (46%), Lynn (53%). The total means for the male subjects for the same category are: Robert (48%), Tim (50%), Steve (67%). Even though Kim, an efficient reader, has the highest total mean (81.7%), the developing readers, Steve and Lynn have the second and third highest total mean (57.0%, 53.0%). The findings also substantiate that although Kim has the highest percentage for each type of material, the rank order varies for the other subjects. Jane, as an example has the lowest percentages for the literature (48%) and science (36%) passages, the fourth highest percentage for the social studies selection (32%), and the second highest percentage for the self-selection material (68%). It is interesting to note that Kim has quite variable percentages of miscues with high graphic similarity but is consistently high in miscues with sound similarity.

The rank order of the subjects also varies when compared with the results for syntactic acceptability, semantic acceptability, meaning change, and graphic similarity. The results of Jane's miscue analysis while reading the science material indicate that she ranks third for the following categories: syntactic acceptability (93%), semantic acceptability (89%), no meaning change (88%), and fifth for
high graphic similarity (56%). This subject also produces the lowest percentage (36%) of miscues with high sound similarity. Tim's percentages for the literature story ranks first for syntactic acceptability (98%), second for no meaning change (94%), third for semantic acceptability (94%), and third for high graphic similarity (80%). He also produces the second lowest percentage (52%) of miscues with high sound similarity. Accordingly, readers produce different percentages of miscues, sound similarity with differing curricular materials.

Similarity of grammatical function indicates to what degree the grammatical function of the reader's substitution of a word has the same grammatical function as the text word.

Same:

Jenny put down the candy machine and picked up the game.

Carletta felt great up in the tree house.

He motioned Pappas to a wooden bench in front of the lockers and sat down beside him.

Questionable:

This time it shattered into transparent swords.

Water and air are taken in by green plants during photosynthesis.

Different:

Though he hadn't acquired any refinements there was a naturalness to his skiing that I envied.

The products of this breakdown can then be used by living plants.

12. $ indicates a non-word substitution.
The young man said he had bought four regulation National League 
team baseballs and pitched them at a painted square on a concrete wall 
under the bridge.

Table 11 shows the results of miscue analysis relative to 
grammatical function similarity for the subjects' reading the social 
studies, science, literature, and self-selection passages.

The means and ranges of the percentages of miscues with 
grammatical function—the same, questionable, or different are dis- 
played in Table 12.

Results of the miscue analysis indicate that a mean of at 
least 61.7% of the miscues generated by these subjects have the same 
grammatical function as the text word. The difference in percentages 
among the efficient, average, and developing readers ranges from 48% 
to 100%.

The total means for the category of the same grammatical 
function as the text word are: the efficient readers, Kim (81.5%), 
Robert (61.7%); the average readers, Jane (67.0%), Tim (75.0%); and 
the developing readers Lynn (67.0%), Steve (63.0%). Although these 
percentages presented in Table 12 are a combination of percentages for 
the different materials, they are useful for comparisons. Robert, an 
efficient reader, has the lowest total mean (61.7%) of any of the 
subjects. Lynn, a developing reader, has the third highest total 
average of any subject. The results do not include any correction 
attempts.
Table 11. Summary of the Percentages for Grammatical Function Similarity

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Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
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</tbody>
</table>
The results also demonstrate that the rank order of the subjects varies with the different curricular materials. Robert, an efficient reader, has the second highest percentage for the social studies passage (64%) but ranks sixth with the science (55%), literature (60%), and fifth for self-selection materials (68%). Jane, an average reader, ranks second for literature (80%), third for self-selection (76%), fourth for social studies (56%), and fifth for science (56%).

Accordingly, the results of the miscue analysis indicate that these readers produce different percentages of miscues for this miscue question. Similar to findings for the other miscue questions, the ranges of percentages and the rank order varies with the different curricular materials.

I-5. Do readers produce similar reading strategies with different curricular materials?

The results of the miscue analysis give a researcher insights into the subjects' reading strategies with different curricular materials.

Data presented as Tables 1, 3, 5, 7, 9, and 11 indicate that each subject samples syntactic, semantic, and graphophononic cues when reading the different texts. The majority of sentences as finally produced by these readers retain their syntactic (79%-100%) and semantic (67%-100%) acceptability. Over 60% (64%-100%) of the sentences, including corrections, do not cause a change in the intended meaning.
Evidence from other miscue analysis studies suggests that readers tend to produce a majority of syntactically acceptable miscues (Y. Goodman 1976, Menosky 1971). Most readers also generate more syntactically acceptable miscues than semantically acceptable miscues (Allen 1969, Burke and Goodman 1970, Y. Goodman 1976). In consonance with these findings the readers in the present study produce, including corrections, a majority of syntactically acceptable sentences (see Table 1). These percentages are equal to or more than the percentage of semantically acceptable sentences (see Table 1).

Although the percentages for syntactic and semantic acceptability are over 66% for all the subjects in this study, it appears that the more efficient tend to produce more sentences, including corrections, which are syntactically and semantically acceptable. For example, Kim's percentages of syntactically acceptable sentences, including correction, those of an efficient reader, are: social studies (100%), science (100%), literature (98%), and self-selection (99%). Robert's percentages of semantically acceptable sentences including correction are: social studies (93%), science (92%), literature (96%), and self-selection (88%). In comparison, Tim, an average reader's percentages for the same miscue category are: social studies (92%), science (82%), literature (94%), and self-selection (84%). Jane, an average reader's percentages of syntactically acceptable sentences including correction are: social studies (85%), science (93%), literature (94%), and self-selection (95%). Lynn, a developing reader's percentages for the same miscue category are: social studies (83%), science (82%), literature (94%), and self-selection (96%). Steve, a
developing reader's percentages of semantically acceptable sentences including correction are: social studies (74%), science (80%), literature (80%), and self-selection (67%).

The students' sampling of graphophonic cues appears not to reflect reader proficiency and varies with the different curricular materials. The largest range of percentages for each student are also found with these categories. Kim, the most proficient reader, as an example, has a range of 60% for high graphic similarity, 40% for high sound similarity as compared to a range of 2% for syntactic and semantic acceptability. At the low end of proficiency Steve's percentages also confirm this researcher's finding. The range of his percentages for high graphic and sound similarity are 40% and 36%. In comparison his ranges for syntactic and semantic acceptability are 12% and 13%.

Several patterns emerge from a comparison of the subjects' percentages for the following categories: syntactic acceptability, semantic acceptability, graphic similarity, and sound similarity with the different materials.

Kim, Robert, Jane, and Tim, the efficient and average readers produce higher percentages for syntactic and semantic acceptability than for graphic and sound similarity. Typical of this result Robert's percentages for these categories for the content area of social studies are: syntactic and semantic acceptability (93%), high graphic similarity (48%), and high sound similarity (36%).

Jane generates the following percentages with the literature story: syntactic acceptability (94%), semantic acceptability (92%),
high graphic similarity (60%), and high sound similarity (48%). Lynn, a developing reader also produces higher percentages for syntactic and semantic acceptability than for graphic and sound similarity, with the exception of the literature story. Her percentages for this passage are: syntactic acceptability (94%), semantic acceptability (84%), high graphic similarity (92%), and high sound similarity (64%). Steve, the other developing reader generates equal or higher graphic and sound similarity percentages than syntactic and semantic acceptability with the science, literature, and self-selection passages. His percentages for the literature story are: syntactic acceptability (91%), semantic acceptability (80%), high graphic similarity (80%), and high sound similarity (80%).

Although Kim has the highest percentages for syntactic acceptability, semantic acceptability and high sound similarity, the rank order of the other subjects varies with the different curricular materials. Typical of this result, the rank order of syntactic acceptability for the social studies passage is: Kim (100%), Tim (96%), Robert (93%), Jane (85%), Lynn (83%), and Steve (79%). In contrast the rank order of high graphic similarity for the same passage is: Tim and Steve (52%), Robert, Jane, and Lynn (48%), and Kim (40%). The ranges of the percentage for different variables vary with the different materials. The highest ranges are: syntactic acceptability, social studies (21%), semantic acceptability, self-selection (31%), high graphic similarity, science (48%), and high sound similarity, science (44%). The narrowest of ranges are: syntactic acceptability, literature (7%), semantic acceptability, literature (18%), high
graphic similarity, social studies (12%), and high sound similarity, social studies (28%).

Results of the miscue analysis also suggest that these readers are using their knowledge of the grammatical restrictions of their language to anticipate the grammatical function of the word in context. With the exception of Steve's percentage for self-selection (48%), the majority of the substitution miscues (55%-100%) have the same grammatical function as the text word.

The rank order of the subjects varies when comparing the results for the miscue questions: grammatical function similarity with results for syntactic acceptability, semantic acceptability, meaning change, graphic similarity, and sound similarity. As an example, Tim has the highest percentage of miscues with the same grammatical function as the text word with the science materials (76%). In this content area, Tim ranks fourth in the following categories: syntactic (86%) and semantic acceptability (82%), no meaning change (86%), high graphic similarity (72%), and third with high sound similarity (60%). Steve, as another example, has the second highest percentage of miscues with the same grammatical function as the text word while reading the social studies passage (64%). In comparison he ranks sixth for syntactic and semantic acceptability (79%, 74%), sixth for no meaning change (73%), first for high graphic similarity (52%), and second for high sound similarity (44%).

The subjects' patterns of self-correction reveal these readers use self-correcting strategies variably depending on the different materials. The percentage of successfully corrected miscues varies
less than 15% with the different texts with the exception of one subject. Jane's pattern of self-correction fluctuates considerably (39%) with the selected passages. Kim's percentages for this category also require a further explanation. Although research (Clay 1968) has shown that efficient readers tend to correct their miscues, this subject successfully corrects only 12% of her total miscues. As an efficient reader, Kim also produces the fewest miscues (social studies 12, science 23, literature 35, self-selection 17) while reading.

The difference among materials shows an interesting pattern. The narrative materials (literature and self-selection) have narrower ranges of percentages for syntactic and semantic acceptability than the expository (social studies and science) passages. The ranges for syntactic acceptability are social studies (21%), science (18%), literature (7%), and self-selection (19%). When Steve's percentage (80%), however, is excluded from self-selection, the percentages for the other subjects only have a range of 3%. The ranges for semantic acceptability are: social studies (25%), science (30%), literature (18%), and self-selection (21%). Similarly with the exception of Steve's percentages, literature has a range of 14% and self-selection a range of 14%.

I-6. Do readers' retelling scores vary with different curricular materials?

Miscue analysis suggests the strategies the subjects employ while reading the different curricular materials. It is important to determine how effectively the readers use these strategies to integrate meaning as they read. The retelling scores attempt to measure the
meaning the readers gain from the selected passages which they choose to share with the researcher. The scores for the six subjects are presented in Table 13.

The results of the miscue analysis for the subjects with different curricular materials are presented in Table 1, 3, 5, 7, 9, and 11. Despite the fact that some subjects, such as Steve, Jane, and Lynn are able to produce a majority of sentences including correction that are semantically acceptable with minimal changes in the intended meaning, their retelling scores indicate that these readers are not able to provide much of a retelling. As an example, Steve's percentages for semantically acceptable and no meaning change for the social studies selection are 74% and 73%. His retelling score for that particular selection is 25. Similarly, Jane and Lynn's percentages for the same two categories for the science passage are 89%, 70%, and 88%, 73% respectively. Their retelling scores are: Jane (55) and Lynn (35).

As readers, these subjects are actively involved in seeking meaning from print. They try to produce sentences which make sense and are close to the author's intended meaning at least 66% of the time. For some reason these subjects do not make use of their meaning seeking strategies in their retelling activity with these passages. They are able to produce meaningful and acceptable sentences while reading and produce acceptable sentences most of the time, but these readers do not seem to have the background information to relate the new learning and retain it in order to present the integrated knowledge in a retelling situation.
Table 13. The Retelling Scores for the Selected Passages

<table>
<thead>
<tr>
<th>Retelling Score</th>
<th>Social Studies</th>
<th>Science</th>
<th>Literature</th>
<th>Self-Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>80</td>
<td>60</td>
<td>80</td>
<td>40</td>
</tr>
</tbody>
</table>

Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
Lynn and Steve are less proficient readers. They also lack background information about the concepts that are described in the content area materials. This is also illustrated in their self-selection passages where Lynn's retelling score is 70 and Steve's retelling score is 65. As K. Goodman (1979, p. 658) suggests, readers "are severely limited in comprehension of text by what they already know before they read."

A comparison of the retelling scores and the readability ratings for the literature, social studies, and science materials also demonstrates the importance of what a reader brings to the reading task.

The retelling scores presented in Table 13 indicate that, with the exception of one subject, Kim, the scores for the other students are higher for the literature and self-selection materials than for the science and social studies passages. Jane's retelling scores: social studies (60), science (55), literature (75), and self-selection (88) are typical of this research finding. Kim has the identical retelling scores (90) for the social studies and literature materials. This subject's self-selection retelling score (95) is higher than her score for the science passage (85).

To round out this discussion Table 14 presents the readability ratings using two different formulas for the content area passages read in this study in a school setting.

The readability ratings suggest that the literature story should be more difficult for these subjects to read and understand, according to the Dale-Chall formula, than either the social studies
Table 14. The Readability Scores for the Selected Passages

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Dale-Chall</th>
<th>SMOG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Studies</td>
<td>high 8th</td>
<td>8</td>
</tr>
<tr>
<td>Science</td>
<td>high 8th</td>
<td>9.0</td>
</tr>
<tr>
<td>Literature</td>
<td>9-10</td>
<td>9.0</td>
</tr>
</tbody>
</table>

or science selections and more difficult than the social studies passage by the SMOG.

All of the subjects, however, have a higher retelling score for the literature story and four of the six subjects find it easier on several measures. Several factors may account for this result. The readability formulas do not take into consideration sufficiently the author's writing style, the students' experience reading narrative materials, the readers' interests or their background knowledge of the substance of a passage. The subjects in this study express an interest in baseball, the focus of the literature passage. Tim and Robert choose to read baseball-related articles for their self-selection materials. The retellings also reveal a prior knowledge of spring training and baseball. Steve comments that the teams "find out the good ones and they pick them for either the minor or major teams." This purpose of spring training is not discussed in the story. Steve is using his knowledge of baseball to help him understand the story.

The subjects are familiar with the author's style of writing and language. Conversations between John Pappas and Mr. Murphy, a
team official, provide background information about these central characters and the Mets baseball team that allows the readers to develop a story schema as they read. Although the subjects have difficulty reading certain names such as the Triborough Bridge, they are able to retell the importance in the story of these places and speculate on the author's purpose for writing this selection.

In comparison, the science passage "Depending on One Another" and the social studies chapter "Who Has Power?" present one major concept and several subsidiary pieces of information. Many new ideas are introduced to the reader with only a brief explanation. For example, the science passage discusses the interrelationships of plants and animals in the environment as well as the input-output needs of plants and animals, direct and indirect influences of living things on one another, balance among living things, photosynthesis, primary and secondary consumers and decomposers. To help the students read and understand this chapter the authors include a series of charts and diagrams such as the following (Burkman et al. 1977, p. 10):
The authors also indicate when the readers should examine these charts or diagrams by including the figure number in the text. Line 31 is an example:

2-5. Would the balance among the living things change if someone killed the bug?

During the oral reading of the passage only Jane and Steve read any of these figure numbers. Jane consistently reads each one of them while Steve reads two out of a possible fifteen. Whether they read the numbers or not, none of the subjects read or examine any of the charts or diagrams located on every page of the text. At the conclusion of the miscue procedures, the subjects tell the researcher that they never read these charts or diagrams in the science or social studies texts.

Certain features of the author's writing style and language may cause the subjects to be more concerned with surface graphic features than with reading for meaning with the science and social studies passages. Line 27 of the social studies passage is an example. In this section of the text the authors are describing an example of a powerful idea.

Line 27: There was the cotton candy maker and the Pass It game right next to one another.

In this sentence Pass It is in italics. Kim reads this segment without a miscue. The following examples demonstrate the miscues the other subjects produced reading this sentence:

Robert: the Pass It game right next [to one] another.

13. [ indicates an unsuccessful attempt at correction.
Jane: the Pass It game right next to one another.

Tim: the Pass It game right next to one another.

Lynn: and the Pass It game right next to one another.

Steve: the Pass It game right next to one another.

None of the subjects discuss this example of the power of an idea in their retellings.

Line 65 of the same passage demonstrates how the subjects react to the author's writing style and use of language.

Line 65: They are our "mental blueprints" and tell us how to act . . . .

The following sentences illustrate the miscues generated by the subjects with this sentence.

Kim: They are our "mental blueprints" and tell us how to act . . . .

Robert: They are our "mental blueprints" and tell us how to act . . . .

Jane: They are our "mental blueprints" and tell us how to act . . . .

Tim: They are our "mental blueprints" and tell us how to act . . . .

Lynn: They are our "mental blueprints" and tell us how to act . . . .

Steve: They are our "mental blueprints" and tell us how to act . . . .

14. @ indicates the correction of a miscue.

15. / indicates a very long pause.

16. An omission is indicated by circling the word, words, or parts of words.
None of the subjects discusses values in terms of "mental blueprints" during the retellings.

The findings indicate that the subjects have different retelling scores with the social studies, science, literature, and self-selection materials. The retelling scores do not always correlate with the readability formula ratings. It appears that the readers' knowledge of their world and language plays an important role in the reading and understanding of new material. The author's style of writing may cause the reader to become more concerned with the surface graphic feature of the text rather than focusing on meaning.

I-7. Do readers produce retrospective responses that indicate their awareness of personal reading strategies?

Retrospective responses are the subjects' verbal thoughts about their reading immediately after they have completed reading. In this study the subjects are asked to identify and comment on their miscues while listening to the playback of their oral reading of a selected passage. The efficient, average, and developing readers produce retrospective responses with the social studies, science, and literature materials. The following examples are typical of these responses:

"I think the number made me pause."

"I was expecting him to say something else."

"It didn't make sense so I went back and read it over."

"The words look the same."

"I thought it sounded better."

"I left out 'as' and it didn't make sense so I kept trying to read it over."
"I skipped those words. It didn't sound right so I went back and read it again."

"I was reading along and it didn't make sense to me."

These retrospective responses suggest that the subjects have some awareness of their sampling, predicting, confirming, and correcting strategies. Many of the subjects' replies also demonstrate an active involvement in the construction of meaning:

"It doesn't sound right that way."

"It seems like it would make more sense my way."

"It would have been better if the author had it that way."

"I was putting it in my own words."

"A major league player wouldn't sigh, he would just say it."

Similar to the subjects in Raisner's (1978) study, the students in this investigation also vary in the ability and willingness to identify, to reflect on, and to comment on their miscues. They identify the following percentages of their own miscues: Kim 26%, Robert 29%, Jane 12%, Tim 9.8%, Lynn 11%, and Steve 31%.

Several factors may account for the range of these percentages. Although the researcher discusses reading miscues with each subject and they practice the retrospective miscue procedure with another passage prior to the one used for analysis, reflective thinking and verbalization of their thoughts while reading is a new experience for these subjects. Subjects such as Steve and Kim quickly become familiar with this procedure. Tim and Jane indicate that the retrospective miscue procedure requires constant concentration. Since the social
studies, science, and literature passages contain more than 12,000 words, fatigue may also be a factor.

Some of the subjects continue to have a negative view of miscues. Comments from Steve like, "I don't know why I said it... it was just dumb," or "I really messed up there," illustrate this notion. Readers with such a view could be reluctant to identify every miscue.

Nevertheless, the retrospective responses indicate the readers' awareness of their reading strategies to some degree. The subjects vary in their ability and willingness to recreate and verbalize their thinking. The retrospective responses also illustrate the readers' active involvement in the reconstruction of meaning.

In summary, the efficient readers, Kim and Robert, have higher percentages of syntactically and semantically acceptable sentences, no change in meaning, and higher retelling scores than the developing readers Lynn and Steve. These categories are all related to gaining meaning from the texts. However, graphic similarity, sound similarity, and grammatical function similarity percentages fluctuate for all readers.

Therefore, graphophonic features are controlled by all readers in similar ways fluctuating because of the content of the material, readability and interest; while the former (syntactic and semantic acceptability, no meaning change and retelling scores) are better controlled by the efficient readers who focus more on constructing and seeking meaning.
Research Question II: Attitudes and Reading Strategies

The second research question concerns whether changes in students' reading strategies might be caused by their attitudes toward reading itself, or toward a specific discipline. On the basis of Burke Reading Interview, Estes Attitude Scales, and miscue analysis procedures, to what degree do reading strategies vary according to students' attitudes toward reading or toward a specific discipline?

Data from the Burke Reading Interview, Estes Attitude Scales, and miscue analysis procedures relevant to the question are presented in terms of five subsidiary questions.

The results of the Estes Attitude Scales that measure the subjects' attitudes toward reading in general, social studies, science, and English are presented in Table 15.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Reading in General</th>
<th>Social Studies</th>
<th>Science</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>83</td>
<td>80</td>
<td>57</td>
<td>85</td>
</tr>
<tr>
<td>Robert</td>
<td>81</td>
<td>59</td>
<td>87</td>
<td>72</td>
</tr>
<tr>
<td>Jane</td>
<td>95</td>
<td>87</td>
<td>60</td>
<td>69</td>
</tr>
<tr>
<td>Tim</td>
<td>91</td>
<td>83</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Lynn</td>
<td>69</td>
<td>71</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>Steve</td>
<td>68</td>
<td>64</td>
<td>85</td>
<td>76</td>
</tr>
</tbody>
</table>
Scores for each scale have a range from 20 to 100. The results suggest that each pair of readers, the efficient readers Kim (83) and Robert (81), the average readers Jane (95) and Tim (91), and the developing readers Lynn (69) and Steve (68), have similar attitudes toward reading in general. It is interesting to note that the average readers show more favorable attitudes than the efficient readers. The male subjects have a more favorable attitude toward science (mean 84) than the female subjects (mean 57.3). The opposite occurs with the measure of attitudes toward social studies, regardless of reading proficiency. The female subjects have a more favorable attitude toward this subject (mean 80.6) than the male subjects (mean 68.6) with the exception of Tim. Male and female subjects have similar attitudes toward reading (male mean 80, female mean 82.3) and English (male mean 76.3, female mean 69.6).

II-1. Do readers with positive attitudes toward social studies, science, literature and reading in general produce miscues that result in different percentages of syntactically and semantically acceptable sentences than readers with negative attitudes toward social studies, science, literature, and reading?

The results of the Estes Attitude Scales and the percentage of syntactically and semantically acceptable sentences including correction are presented in Table 16. The data suggest no relationship between readers with positive and negative attitudes toward reading in general, social studies, science, and English and the percentages of syntactically and semantically acceptable sentences. The following examples illustrate this research finding. Robert, an efficient
### Table 16. Attitude Toward Reading, Social Studies, Science, English, and the Percentages of Syntactically and Semantically Acceptable Sentences

<table>
<thead>
<tr>
<th>Subject</th>
<th>K</th>
<th>R</th>
<th>J</th>
<th>T</th>
<th>L</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Attitude Score</td>
<td>83</td>
<td>81</td>
<td>95</td>
<td>91</td>
<td>69</td>
<td>68</td>
</tr>
<tr>
<td>Social Studies:</td>
<td></td>
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<tr>
<td>Attitude Score</td>
<td>80</td>
<td>59</td>
<td>87</td>
<td>83</td>
<td>71</td>
<td>64</td>
</tr>
<tr>
<td>Percentage of Syntactically</td>
<td>100</td>
<td>93</td>
<td>85</td>
<td>96</td>
<td>83</td>
<td>79</td>
</tr>
<tr>
<td>Acceptable Sentences Including</td>
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<tr>
<td>Correction</td>
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<tr>
<td>Percentage of Semantically</td>
<td>99</td>
<td>93</td>
<td>82</td>
<td>92</td>
<td>79</td>
<td>74</td>
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<td>Acceptable Sentences Including</td>
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<tr>
<td>Correction</td>
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<tr>
<td>Science:</td>
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<tr>
<td>Attitude Score</td>
<td>57</td>
<td>87</td>
<td>60</td>
<td>81</td>
<td>55</td>
<td>85</td>
</tr>
<tr>
<td>Percentage of Syntactically</td>
<td>100</td>
<td>94</td>
<td>93</td>
<td>86</td>
<td>82</td>
<td>86</td>
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<tr>
<td>Acceptable Sentences Including</td>
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<td>Correction</td>
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<tr>
<td>Percentage of Semantically</td>
<td>100</td>
<td>92</td>
<td>89</td>
<td>82</td>
<td>70</td>
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<td>Acceptable Sentences Including</td>
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<tr>
<td>Correction</td>
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<td>English Literature:</td>
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<tr>
<td>Attitude Score</td>
<td>85</td>
<td>72</td>
<td>69</td>
<td>81</td>
<td>55</td>
<td>76</td>
</tr>
<tr>
<td>Percentage of Syntactically</td>
<td>98</td>
<td>96</td>
<td>94</td>
<td>98</td>
<td>94</td>
<td>91</td>
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<tr>
<td>Acceptable Sentences Including</td>
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<tr>
<td>Correction</td>
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<td>Percentage of Semantically</td>
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<td>96</td>
<td>92</td>
<td>94</td>
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<td>Acceptable Sentences Including</td>
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<tr>
<td>Correction</td>
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</table>

Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
reader, and Tim, an average reader, indicate considerably different attitudes toward social studies (Robert 59, Tim 83). Both of these readers produce miscues which result in similar percentages of syntactically (Robert 93%, Tim 96%) and semantically (Robert 93%, Tim 92%) acceptable sentences. Kim, an efficient reader, and Jane, an average reader have percentages of syntactically (Kim 98%, Jane 94%) and semantically acceptable (Kim 98%, Jane 92%) sentences that are almost identical for the content area of English. These readers do not share the same attitude toward this subject (Kim 85, Jane 69).

The results of the Estes Attitude Scales and the miscue analysis show no observed relationship between the subjects' attitudes toward reading in general, social studies, science, and English, and their percentages of semantically and syntactically acceptable sentences.

II-2. Do readers with positive attitudes toward social studies, science, literature, and reading in general produce miscues that result in different percentages of changes in meaning than readers with negative attitudes toward social studies, science, literature, and reading?

The results of the Estes Attitude Scales and the percentages of changes in meaning are displayed in Table 17. The findings indicate that there is no observed relationship between students with positive and negative attitudes toward reading in general, social studies, science, and English and their percentages of changes in meaning. The following comparisons illustrate this finding. Kim and Robert, efficient readers, express different attitudes (80, 59) toward social studies. As readers, these students produce few sentences that change
Table 17. Attitudes Toward Reading, Social Studies, Science, English and the Percentages of Changes in Meaning

<table>
<thead>
<tr>
<th></th>
<th>Subject</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
the intended meaning of the passage (1%, 9%). When reading the literature passage, Kim and Jane produce few sentences that alter the intended meaning of the story (2%, 8%). These subjects have different attitudes toward this content area (Kim 85, Jane 69). Therefore, no observed relationship is shown between students' attitudes toward reading in general or a specific discipline and their percentages of changes in meaning as measured by miscue analysis.

II-3. Do readers with positive attitudes toward social studies, science, literature, and reading in general self-correct a different percentage of miscues than readers with negative attitudes toward social studies, science, literature, and reading?

Table 18 displays the results of the Estes Attitude Scales and the percentage of self-corrections.

Results of the Estes Attitude Scales for reading and the miscue analysis indicate that readers with more favorable attitudes toward reading tend to self-correct a higher percentage of miscues. Jane and Tim, average readers, who have the most favorable attitudes toward reading (95, 91), also self-correct an identical average of 39.6% of their miscues produced while reading the social studies, science, and literature passages. In contrast, Lynn and Steve, developing readers, have the least favorable attitudes toward reading (69, 68). These readers self-correct an average of 16.0% and 21.3% of their miscues with the same material.

Readers who show both positive and negative attitudes toward reading in general, social studies, science, and English demonstrate no relationship between scores on the Estes Attitude Scales and
Table 18. Attitudes Toward Reading, Social Studies, Science, English and the Percentages of Self-Correction

<table>
<thead>
<tr>
<th>Subject</th>
<th>K</th>
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Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
self-correction. The following subjects demonstrate the finding. Jane and Robert have different scores on the Estes Attitude Scales that measure attitudes toward science (60, 87). Both of these subjects self-correct about half (50%, 53%) of their miscues when they read this passage. Jane and Tim exhibit different attitudes toward English (69, 81). They self-correct about the same percentage (40%, 43%) of their miscues while reading this story.

Results of the Estes Attitude Scales and miscue analysis indicate that readers with more favorable attitudes toward reading in general tend to self-correct a higher percentage of miscues. There appears to be, however, no observed relationship between attitudes toward reading in general, social studies, science, English and the subjects' percentages of self-corrected miscues.

II-4. Do readers with positive attitudes toward social studies, science, literature, and reading in general produce miscues that result in different percentages of miscues with graphic similarity, sound similarity, or grammatical function similarity than readers with negative attitudes toward social studies, science, literature, and reading?

Table 19 shows the results of the Estes Attitude Scales and the different percentages of miscues with graphic similarity, sound similarity, or grammatical function similarity for these subjects.

Findings relative to this question indicate there is no observed relationship between the subjects' attitudes toward reading in general, their attitudes toward the content areas of social studies, science, and English, and the percentages of miscues with graphic
Table 19. Attitudes Toward Reading, Social Studies, Science, English and the Percentages of Miscues with Graphic, Sound, or Grammatical Function Similarity

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Key: K = Kim, R = Robert, J = Jane, T = Tim, L = Lynn, S = Steve.
similarity, sound similarity, or grammatical function similarity. Many comparisons demonstrate this result. Kim and Lynn indicate different attitudes toward English (85, 55). When these subjects read the same story, they generate a similar percentage of miscues (90%, 92%) with high graphic similarity. Robert has the most favorable attitude toward science (87). Jane expresses a less favorable attitude toward this content area (60). Miscue analysis reveals that these subjects have similar percentages (55% and 56%) of miscues with the same grammatical function as the text word. While reading the social studies passage Tim and Steve produce the same percentage (44%) of miscues with high sound similarity. These students do not have the same attitude toward this content area (Tim 83, Steve 64).

The results indicate no observed relationship between the readers' attitudes toward reading in general, social studies, science, English, and their percentages of miscues with graphic similarity, sound similarity, or grammatical function similarity as measured with the instruments used in this study.

II-5. Do readers with a positive attitude toward self as a reader produce different percentages of miscues than readers with a negative attitude toward self as a reader?

The Burke Reading Interview asks the subjects: "Do you think you are a good reader?" The following responses give the researcher insights into the subjects' attitudes toward themselves as readers.
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<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>Response</th>
</tr>
</thead>
<tbody>
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<td>Kim</td>
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<td>&quot;Yes, because I read a lot of books ... I enjoy reading ... It's easy for me to read.&quot;</td>
</tr>
<tr>
<td>Robert</td>
<td>Efficient</td>
<td>&quot;I'm O.K. ... not the greatest ... I don't read fast ... I read O.K.&quot;</td>
</tr>
<tr>
<td>Jane</td>
<td>Average</td>
<td>&quot;Just so-so ... I don't read fast ... I just like to take my time ... so if I read fast I don't know what I've read.&quot;</td>
</tr>
<tr>
<td>Tim</td>
<td>Average</td>
<td>&quot;Ya ... I like reading. I read a lot and usually I get a lot out of reading.&quot;</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;I'm O.K. ... I have a hard time reading adult books ... books for someone my age I can read pretty well.&quot;</td>
</tr>
<tr>
<td>Steve</td>
<td>Developing</td>
<td>&quot;Average ... not really good ... it's hard for me to read.&quot;</td>
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</tbody>
</table>

Kim, an efficient reader, and Tim, an average reader, suggest a positive attitude toward themselves as readers. They answer the question without hesitation and give explanations such as "it's easy for me to read," "I read a lot of books" or "I enjoy reading" to support their statements. Robert, the other efficient reader, and Lynn, a developing reader, have to reflect before they give their replies. Both subjects consider themselves "O.K." as readers, "not the greatest" but capable of reading certain materials. Steve, the
other developing reader, and Jane, an average reader, suggest that they are "average" or "so-so" readers. They elaborate on factors which prevent them from being good readers like "I don't read fast," "I don't know all the words." Both of these subjects have a negative attitude toward themselves as readers.

The percentages of miscues produced by subjects with a positive attitude toward themselves as readers and subjects with negative attitudes varies with the different miscue categories.

Kim and Tim, the readers with a positive attitude, generate higher percentages of sentences that are syntactically and semantically acceptable and sentences that result in no change to the intended meaning of the selection, than Steve and Jane, the subjects with a negative attitude.

A comparison of Kim and Jane's percentages of syntactically acceptable sentences illustrates this finding. Their percentages for this category are: Kim—social studies (100%), science (100%), literature (98%), self-selection (99%), and Jane—social studies (85%), science (93%), literature (94%), and self-selection (95%). Tim's percentages of semantically acceptable sentences are: social studies (92%), science (82%), literature (94%), and self-selection (84%). In contrast Steve's percentages for this category are: social studies (74%), science (80%), literature (80%), and self-selection (67%). Tim and Steve's percentages of sentences with no change to the intended meaning demonstrate this finding for this category. Tim's percentages are: social studies (94%), science (86%), literature (94%), and self-selection (81%). Steve's percentages of sentences with no change of
intended meaning are: social studies (73%), science (76%), literature (78%), and self-selection (67%).

The same pattern is not as apparent for the self-selection, graphic similarity, sound similarity, and grammatical function similarity categories. Robert, an efficient reader with an average view of himself as a reader, self-corrects a higher percentage of miscues social studies (51%), science (53%), literature (41%), and self-selection (38%) than any of the other subjects. Tim's percentage of miscues with graphic and sound similarity are: social studies (52%, 44%), science (72%, 60%), literature (80%, 52%), and self-selection (68%, 44%). In comparison Steve, a subject with a poor self-concept as a reader, produces the following percentages for graphic and sound similarity: social studies (52%, 44%), science (92%, 80%), literature (80%, 80%), and self-selection (80%, 64%).

Subjects with a positive view of themselves as readers have higher retelling scores in the content areas of social studies, science, and literature. As an example, Tim and Jane's retelling scores are: social studies (80, 60), science (75, 55), and literature (85, 75). With the self-selection materials Jane's retelling score (88) is about the same as Tim's score (85). Kim's (95) and Tim's retelling scores (85), however, are considerably higher than Steve's score (65).

While these data compare subjects with different attitudes toward themselves as readers, it is important to note that these students also have varying proficiency as readers. Kim, the most proficient reader, and Tim, an average reader, both indicate a positive concept of themselves as readers as measured by the instrument used in
this study. In comparison, Steve, a less proficient reader, and Jane, an average reader, suggest a negative self-concept of themselves as readers.

It appears that subjects with a positive self image as readers produce higher means for syntactic and semantic acceptability and no meaning change than readers with a negative self image. This trend is not as clear for self-correction, graphic similarity, sound similarity, and grammatical function similarity.

In summary, the findings indicate that the efficient readers, Kim and Robert, the average readers, Jane and Tim, and the developing readers, Lynn and Steve, have similar attitudes toward reading in general. Male subjects appear to have more favorable attitudes toward science, the female subjects have more toward social studies. There is no such trend toward reading in general and English. Subjects with a positive self-concept of themselves as readers employ reading strategies that demonstrate a concern for obtaining meaning from print.

Attitudes may be significant, but other variables appear to be important so that attitudes used in an isolated fashion do not seem to relate to reading proficiency. The readability of a selection, the particular content of a passage, the readers' familiarity with different kinds of writing styles found in narrative and expository texts all seem to interact to determine to what degree the readers vary their reading strategies with differing materials.
Research Question III: Reading in Different Settings

How do readers' responses vary depending on whether they are reading in school or in a non-school setting?

Data relevant to this question are presented in terms of three subsidiary questions.

III-1. To what degree do their responses to the Burke Reading Interview questions vary?

Since the Burke Reading Interview does not ask questions related to in and out-of-school settings, the questions were adapted to accommodate different settings.

These questions and typical responses for each setting are presented in the following section.

a. When you are reading and you come to something you don't know, what do you do?

<table>
<thead>
<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>In School--Typical Responses</th>
<th>Non-School Setting--Typical Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>Efficient</td>
<td>&quot;I try and imagine it with something else . . . relate it to something else . . . if I don't understand it usually I'll just keep reading . . . I don't make a big deal of it.&quot;</td>
<td></td>
</tr>
<tr>
<td>Robert</td>
<td>Efficient</td>
<td>&quot;Look it up in the dictionary&quot;</td>
<td></td>
</tr>
<tr>
<td>Jane</td>
<td>Average</td>
<td>&quot;Read over the word a couple of times&quot;</td>
<td></td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;Ask the teacher&quot;</td>
<td></td>
</tr>
<tr>
<td>Kim</td>
<td>Efficient</td>
<td>&quot;Probably keep reading&quot;</td>
<td></td>
</tr>
<tr>
<td>Subject</td>
<td>Classification of Reader</td>
<td>Non-School Setting—Typical Responses</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------</td>
<td>--------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Robert</td>
<td>Efficient</td>
<td>&quot;Try to figure out what the letters mean&quot;</td>
<td></td>
</tr>
<tr>
<td>Jane</td>
<td>Average</td>
<td>&quot;Read over the sentence a couple of times&quot;</td>
<td></td>
</tr>
<tr>
<td>Steve</td>
<td>Developing</td>
<td>&quot;Read along and see if I could understand it&quot;</td>
<td></td>
</tr>
</tbody>
</table>

b. When the teacher comes to something he doesn't know, what do you think he does about it?

<table>
<thead>
<tr>
<th>In School—Typical Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
</tr>
<tr>
<td>Robert</td>
</tr>
<tr>
<td>Jane</td>
</tr>
</tbody>
</table>

Non-School Setting—Typical Responses

| Kim                         | "Try to understand it and if he couldn't, keep reading" |
| Jane                        | "He'd probably read the sentence... or look it up later" |
| Tim                         | "Probably try and figure out what the sentence should mean" |
| Lynn                        | "He'd probably skip it" |
c. If you knew that someone was having difficulty reading, how would you help them?

<table>
<thead>
<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>In School--Typical Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert</td>
<td>Efficient</td>
<td>&quot;If they didn't know the words, I'd tell them&quot;</td>
</tr>
<tr>
<td>Jane</td>
<td>Average</td>
<td>&quot;Try to help them understand what they were reading&quot;</td>
</tr>
<tr>
<td>Tim</td>
<td>Average</td>
<td>&quot;Let them read a lot so they can get good practice at it&quot;</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;Well there's a special reading class at school and you could maybe . . . just try to help them read and stuff&quot;</td>
</tr>
</tbody>
</table>

Non-School Setting--Typical Responses

| Jane    | Average                  | "Just tell them to read" |
| Tim     | Average                  | "Get him interested in books he would like" |
| Lynn    | Developing               | "Help him read books with them (his parents) and help him understand it" |
| Steve   | Developing               | "Have them read to you" |

d. What kinds of things do you read outside of school?

Typical Responses

<p>| Kim     | Efficient                | &quot;Mostly fiction and books about animals . . . labels . . . notes&quot; |
| Robert  | Efficient                | &quot;Mysteries and science fiction . . . magazines, the paper&quot; |</p>
<table>
<thead>
<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>Typical Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane</td>
<td>Average</td>
<td>&quot;horse books, adventure books . . . signs, some packages&quot;</td>
</tr>
<tr>
<td>Tim</td>
<td>Average</td>
<td>&quot;novels . . . the paper&quot;</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;Judy Blume books . . . scary books&quot;</td>
</tr>
<tr>
<td>Steve</td>
<td>Developing</td>
<td>&quot;sports books . . . magazines, newspapers&quot;</td>
</tr>
</tbody>
</table>

e. How would you compare reading in school and out of school?

Kim Efficient

"It's harder to read in school because you're not as relaxed as you would be if you were reading at home . . . sometimes teachers say O.K. you've got 15 minutes to read . . . and maybe you don't feel like reading then . . . if you stop they bother you . . . at home you can put your book down anytime you want . . . ."

Robert Efficient

"Well when you're in school you might have to read it . . . when you're at home you can read it when you want--in school when the teacher says you have to read you have to read"

Jane Average

"Well at school . . . you have to explain to the teacher . . . or you have to write something out . . . at home you
<table>
<thead>
<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>Typical Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tim</td>
<td>Average</td>
<td>&quot;In school a lot of times it makes up your grade . . . out of school . . . you can just read for pleasure&quot;</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;It's different like you have your own choice of reading your own book and most of the time you read silently . . . at school you have to read out loud in front of everybody else . . . I don't like doing that&quot;</td>
</tr>
<tr>
<td>Steve</td>
<td>Developing</td>
<td>&quot;It depends if you got something assigned out of school you don't have to read the whole thing you can skip it . . . in school if you have to make a report on it or tell about it, you have to read it all&quot;</td>
</tr>
</tbody>
</table>

The subjects' responses to the Burke Reading Interview questions vary depending on whether they are reading in school or in a non-school setting. In a school setting their replies indicate that reading is harder because the teacher determines the time and purpose for reading. The students feel they do not have any choice or control over the process. They sometimes read aloud, to make a report, finish an assignment, or for a grade. According to the Burke Reading Interview
comments such as "look it up in the dictionary," "find out what the word means," or "ask the teacher" are typical. For a school setting about 70% of the subjects' responses suggest a skills-model of reading (see Chapter 2 for fuller discussion). The percentages of responses that reflect this model of reading range from 63% for the efficient readers (Kim, Robert), to 69% for the average readers (Jane, Tim) and to 80% for the developing readers (Lynn and Steve).

Responses to the Burke Reading Interview questions in a non-school setting are predominantly whole-language oriented. About 80% of the comments such as "probably keep reading," "get them interested in books," or "have them read to you" indicate a whole-language model of reading. The percentages of responses that reflect this model of reading in a non-school setting also vary with the three groups of readers. The average readers have a higher percentage (94%) than the efficient readers (80%) and the developing readers (71%) of their responses that reflect a whole-language model of reading.

The subjects' responses also indicate that reading in a non-school setting is more relaxed. Students can read anytime for many different purposes, including personal pleasure and interest. They select the reading materials and decide whether to complete a selection or only read a portion of the text.

When listing different materials they read in a non-school setting, the subjects include different kinds of books, magazines, and the newspaper. All of the subjects associate reading with books, magazines, newspapers, and other printed materials. Two subjects also list items such as labels, signs, or print on packages. Consequently,
only one-third of the subjects consider the forms of print found in their environment as reading. Nevertheless, their responses suggest greater variety of reading in a non-school setting than reading in school.

III-2. According to miscue analysis procedures to what degree do their strategy percentages vary?

Data from the miscue analysis indicate that the efficient, average, and developing readers' strategy percentages for the passages read in a non-school setting vary in similar ways as the percentages for the social studies, science, and literature selections read in a school setting (see Tables 1, 3, 5, 7, 9, and 11).

Many examples demonstrate this research finding for the efficient, average, and developing readers. Kim, an efficient reader's percentages for the miscue categories for the science and self-selection materials are: syntactic acceptability (100%, 99%), semantic acceptability (100%, 98%), no meaning change (100%, 100%), self-correction (11%, 10%), high graphic similarity (100%, 77%), high sound similarity (100%, 77%), and the same grammatical function (67%, 100%).

Tim's percentages, those of an average reader for the social studies and self-selection are: syntactic acceptability (96%, 93%), semantic acceptability (92%, 84%), no meaning change (94%, 81%), self-correction (44%, 30%), graphic similarity (52%, 68%), sound similarity (44%, 44%), and grammatical function similarity (68%, 84%).

Lynn's percentages, those of a developing reader, for literature and self-selection are: syntactic acceptability (94%, 96%), semantic acceptability (84%, 88%), no meaning change (85%, 85%), self-correction
(19%, 22%), graphic similarity (92%, 80%), sound similarity (64%, 64%), and grammatical function similarity (72%, 72).

With the exception of two subjects, Robert and Tim, the retelling scores for the non-school passages are higher than the scores for the social studies, science, and literature materials. Tim, an average reader, has the same retelling score (85) for the literature and the passage read in a non-school setting. Robert, an efficient reader, has a 90 retelling score for the literature story and an 85 for the out-of-school passage. For both these readers, however, the science and social studies retelling scores are lower than the self-selection and literature scores.

The readers' percentages for the non-school setting vary in similar ways as the percentages for the materials read in school. The retelling scores, however, seem to suggest possible differences between in-school and out of school reading.

III-3. In what ways do their general attitudes and responses in the research sessions vary in a school and non-school setting?

As a group the subjects' attitudes and responses change in the different settings. Some subjects request sitting or lying on the floor during the research sessions at their homes. Their retellings in a non-school setting are more detailed and require fewer probing questions from the researcher. The subjects are more relaxed and confident while reading during the research sessions in a non-school setting.
Research Question IV: The Selection of Reading Materials

The fourth research question concerns the selection of reading materials. How do readers' responses vary depending on whether the material has been assigned by the teacher or has been self-selected?

Data relevant to this research question are presented in terms of three subsidiary questions.

IV-1. To what degree do their responses to the Burke Reading Interview questions vary?

Since the Burke Reading Interview does not ask questions specifically to gain insights concerning the selection of reading materials the questions are adapted to extend the information provided by the subjects.

How would you compare reading the materials you select and those the teacher gives you to read?

<table>
<thead>
<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>Efficient</td>
<td>&quot;... when they give you something to read it's harder ... you're limited to what the teacher thinks you should read ... it's easier to read books you just go to the library and select them&quot;</td>
</tr>
<tr>
<td>Robert</td>
<td>Efficient</td>
<td>&quot;when they select you might not want to read it ... some boring book about mountains ... sometimes I choose by the picture on the cover or the name&quot;</td>
</tr>
<tr>
<td>Subject</td>
<td>Classification of Reader</td>
<td>Quote</td>
</tr>
<tr>
<td>---------</td>
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<td>-------</td>
</tr>
<tr>
<td>Jane</td>
<td>Average</td>
<td>&quot;Some things are really boring . . . they just pick things they think we like . . . I think we should get a chance to pick something we like&quot;</td>
</tr>
<tr>
<td>Tim</td>
<td>Average</td>
<td>&quot;Some of the things the teacher gives me I don't like reading 'cause it might be boring or just not interesting . . . most of the things I read at my house I like reading because I check them out myself&quot;</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;The books I select to read I really like . . . but the ones at school . . . they're different because you can relate to most of the ones you pick out . . . the ones teachers have you read . . . they're kind of boring&quot;</td>
</tr>
<tr>
<td>Steve</td>
<td>Developing</td>
<td>&quot;Some of them are boring . . . I don't like to read novels . . . I like to read other kinds of books . . . I would probably choose a newspaper or a magazine&quot;</td>
</tr>
</tbody>
</table>

The subjects' responses express their preference for self-selection materials rather than those assigned by the teacher. Teacher assigned materials are considered harder to read, and restricted to the teachers' choice of content. The subjects suggest that these
materials are not always interesting. Several subjects reveal they enjoy reading self-selected materials of interest to them. All of the students indicate they would choose different materials from those assigned by the teacher.

IV-2. To what degree do the students' strategy percentages using miscue analysis vary?

The subjects' strategy percentages vary in similar ways for the teacher-assigned passages as the strategy percentages for the self-selected materials. They produce fluctuating percentages of sentences that are syntactically acceptable, semantically acceptable, and sentences that result in no change at all to the intended meaning of the selection. Robert, an efficient reader, produces a mean of syntactically acceptable percentage of 94.5%. His percentage for the same category with the self-selection material is 95%. Jane, an average reader, produces percentages of semantically acceptable sentences with the social studies, science, and literature materials that have a mean of 87%. Her self-selection percentage for this category is 86%.

The readers' percentages for self-correction, graphic similarity, sound similarity, and grammatical function similarity also fluctuate with teacher-assigned and self-selected materials. The following examples illustrate this finding. The mean score of Lynn, a developing reader's self-correcting percentages with the teacher-assigned materials is 16%. This subject self-corrects about 22% of her miscues with the self-selection passage. Steve, the other developing reader, produces the following percentages of miscues with
high graphic similarity: social studies (52%), science (92%), and literature (80%). These percentages have a mean of 74.6%. His percentages of substitution miscues for this category for the self-selection passage is 80%.

Once more, it seems that one variable such as self-selection does not make particular material easy or difficult to read. The variety of variables in reading such as subject matter, interest, also are factors to be considered perhaps in an integrated fashion.

IV-3. In what ways do the students' general attitudes and responses in the research sessions vary?

The subjects' general attitudes and responses in the research sessions alter depending on whether the materials are teacher-assigned or selected by the subjects. Each of the subjects selects several articles or stories that are suitable for the research session. Their retellings and responses to questions are more detailed and demonstrate a background knowledge and interest in the characters and events in the self-selection passages. Four of the six subjects have the highest retelling scores on their self-selected reading. Tim has the same retelling score for literature and self-selection passage. Robert has an 85 retelling score on the self-selection passage and a 90 on the literature materials.

Research Question V: The Purpose for Reading

The fifth research question concerns the purpose for reading the content area materials. How do readers' strategies vary depending on their purposes for reading?
Data relevant to this research question are presented in terms of two subsidiary questions.

V-1. To what degree do the students' strategy percentages based on miscue analysis vary?

The following examples are typical responses of these subjects dealing with the purposes for reading the selected passages.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>Social Studies--Typical Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>Efficient</td>
<td>&quot;The teacher would give it to you because she wanted you to learn about it&quot;</td>
</tr>
<tr>
<td>Robert</td>
<td>Efficient</td>
<td>&quot;Use it in later life&quot;</td>
</tr>
<tr>
<td>Tim</td>
<td>Average</td>
<td>&quot;Probably don't know too much about it&quot;</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;To learn about the past&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>Science--Typical Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>Efficient</td>
<td>&quot;To use the information for whatever exercise you're going to do after reading&quot;</td>
</tr>
<tr>
<td>Jane</td>
<td>Average</td>
<td>&quot;Find out what scientists are doing right now&quot;</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;To learn about science&quot;</td>
</tr>
<tr>
<td>Steve</td>
<td>Developing</td>
<td>&quot;To learn about science . . . the environment and the world&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Classification of Reader</th>
<th>Literature--Typical Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim</td>
<td>Efficient</td>
<td>&quot;Just for enjoyment&quot;</td>
</tr>
<tr>
<td>Robert</td>
<td>Efficient</td>
<td>&quot;Just for fun&quot;</td>
</tr>
<tr>
<td>Subject</td>
<td>Classification of Reader</td>
<td>Literature—Typical Responses</td>
</tr>
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<td>-----------------------------</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;Probably to answer questions&quot;</td>
</tr>
<tr>
<td>Steve</td>
<td>Developing</td>
<td>&quot;To read stuff about spring and summer&quot;</td>
</tr>
<tr>
<td>Kim</td>
<td>Efficient</td>
<td>&quot;To read about people in my favorite T.V. show&quot;</td>
</tr>
<tr>
<td>Jane</td>
<td>Average</td>
<td>&quot;Learn a little about polar bears and their environment&quot;</td>
</tr>
<tr>
<td>Tim</td>
<td>Average</td>
<td>&quot;Know why Oakland and Toronto are getting a lot better this year&quot;</td>
</tr>
<tr>
<td>Lynn</td>
<td>Developing</td>
<td>&quot;To become scared . . . I like scary books and thrillers&quot;</td>
</tr>
</tbody>
</table>

The subjects' responses for the purpose of reading the social studies and science passages are vague and general. They perceive that the purposes for reading these passages are to gain information, to complete an assignment or to help them in later years.

According to the teachers, the subjects are assigned the social studies passage to gain information about power, thus enabling them to discuss this concept in their next class and learn how it relates to their particular lives. The subjects read the science chapter to investigate the interrelationships between plants and animals. In their next science class, the students would be making charts and diagrams to illustrate these relationships.

Responses to questions such as: "Jane, what was the purpose of reading this social studies chapter as homework?" or "Steve, why
would you be reading this science passage in class?" indicate that the subjects do not understand the teachers' specific purposes for reading these passages.

The students appear to have a more definite purpose for reading the literature and self-selection materials. Answers to questions such as: "Tim, what is the purpose for reading this short story?" or "Kim, why did you choose to read this article?" reveal that these articles or stories are read for entertainment, to learn about specific subject material such as polar bears or to gain information about certain baseball teams.

Results of the miscue analysis indicate that there does not appear to be a relationship between the subjects' purposes for reading and their strategy percentages. As examples of this finding, Robert, an efficient reader's percentages of syntactically acceptable sentences are: social studies (93%), science (94%), literature (96%), and the self-selection passage (95%). Tim, an average reader, produces percentages of semantically acceptable sentences of: social studies (92%), science (82%), literature (94%), and self-selection (84%). Steve, a developing reader, produces percentages for no change in meaning of: social studies (73%), science (76%), literature (78%), and self-selection (67%).

The subjects' percentages for self-correction, graphic similarity, sound similarity, and grammatical function similarity also demonstrate no observed relationship between purpose for reading and their percentages for these miscue categories. Kim, an efficient reader's percentages for self-correction are: social studies (9%),
science (11%), literature (8%), and self-selection (10%). Jane, an average reader, produces percentages of miscues with high graphic similarity of: social studies (48%), science (56%), literature (60%), and self-selection (64%).

The retelling scores clearly point out that all of the subjects have higher scores for the passages read for a specific purpose (literature, self-selection) than for the content area materials that they have only a vague purpose for reading (social studies, science).

The retelling scores, as an example, for Robert, an efficient reader, Tim, an average reader, and Lynn, a developing reader are: social studies (80, 80, 40), science (80, 75, 35), literature (90, 85, 50), and self-selection passage (85, 85, 70).

Therefore, there appears to be no observed relationship between the subjects' purpose for reading and their strategy percentages based on miscue analysis. On the other hand, the subjects have higher retelling scores for the passages they read for a specific purpose.

V-2. In what ways do the students' general attitudes and responses in the research sessions vary?

The readers' attitudes and responses in the research sessions contrast depending on the purpose for reading. They respond quickly when asked the purpose for reading the literature and self-selection passages. The subjects suggest several specific purposes for selecting and reading these articles and stories.

In comparison, the students pause and give rather general purposes for reading the science and social studies passages. Their replies do not reflect the teachers' purposes. Instead, the readers'
comments allude to their general perception for studying specific topics in school. Responses to the researchers' questions suggest that the subjects, as readers, do not consciously think about the purposes for reading.

This chapter presents the cumulated findings for the study. In summary an analysis of the data indicates that each subject samples syntactic, semantic, and graphophonic cues when reading. The more efficient readers procrete more sentences including correction that are syntactically and semantically acceptable, and result in no change to the intended meaning. These categories are all related to gaining meaning from the text.

The subjects' patterns of self-correction reveal that these readers' self-correcting strategies vary depending on the different materials. The students' sampling of graphophonic cues appears not to reflect reader proficiency but varies with the different curricular materials.

The retelling scores indicate, with the exception of one subject, Kim, that the scores for the literature and self-selection materials are higher than for the social studies and science passages. The retelling scores do not always correlate with the readability formula ratings.

The students' retrospective responses reveal an awareness of their reading strategies to some degree although their ability and willingness to recreate and verbalize their thinking varies considerably.
The results of the **Estes Attitude Scales** signify that each pair of readers, the efficient readers, Kim and Robert, the average readers, Jane and Tim, and the developing readers, Lynn and Steve, have similar attitudes toward reading in general. The male subjects have more favorable attitudes toward science, whereas the female subjects have more favorable attitudes toward social studies. Male and female subjects have similar attitudes toward reading in general and English.

Results of the **Estes Attitude Scales** and miscue analysis indicate no observed relationship between attitudes toward reading in general, social studies, science, English on the one hand, and the subjects' percentages of semantically and syntactically acceptable sentences, the readers' percentages of changes to the intended meaning, or their percentages of miscues with graphic similarity, sound similarity or grammatical function similarity on the other. Readers with more favorable attitudes toward reading in general tend to self-correct a higher percentage of miscues. There appears to be, however, no observed relationship between attitudes toward reading in general, social studies, science, English and the readers' percentages of self-corrected miscues. Students with a positive self-concept as readers employ reading strategies that demonstrate a concern for obtaining meaning from the text.

The students' responses to the **Burke Reading Interview** suggest differing models of the reading process in different settings. In a school setting the students have a predominantly skills- or word-oriented model of reading. In a non-school setting their responses
suggest a whole-language orientation. The subjects appear to be more
relaxed and confident while reading in a non-school setting.

Miscue analysis results indicate that the students' strategy
percentages for the non-school setting vary in similar ways as the
strategy percentages for the selected passages read in school. An
analysis of the retelling scores, however, suggests possible differ-
ences between in-school and out of school reading.

The students detect a difference between materials they select
to read and those passages assigned by the teacher. The subjects
express a preference for self-selected materials that would be
different from those passages assigned by the teacher. Their strategy
percentages vary in similar ways for the teacher-assigned passages as
the strategy percentages for the self-selected materials. Four of the
six subjects have their highest retelling scores on their self-selected
passages. The retelling for the material the subjects select to read
is more detailed and demonstrates a background knowledge and the
readers' interests.

The students do not always understand the purposes for reading
in school. Their responses for the purposes of reading the social
studies and science are vague and general. The subjects appear to
have a more definite purpose for reading the literature and self-
selection materials. Results of miscue analysis indicate that there
appears to be no relationship between the students' purposes for
reading and their strategy percentages. The retelling scores, however,
illustrate that all of the readers have higher scores for the passages
read for a specific purpose.
CHAPTER 5

RESULTS: INDIVIDUAL READING PROFILES

This study examines the reading strategies employed by six selected junior high school students while reading social studies, science, and literature passages in school and a self-selected passage in a non-school setting. The study also investigates the subjects' purposes for reading, their personal model of the reading process, and attitudes toward reading in general as well as in the content areas of social studies, science, and literature. To investigate, describe, and analyze interrelationships among these variables, data are collected from six junior high school readers.

The subjects were administered the Burke Reading Interview and the Estes Attitude Scales. They read the social studies, science, and literature passages in a school setting. The students also read a self-selected passage at their homes. Miscue analysis procedures are followed with each of these reading materials. Retrospective miscue responses are recorded for each subject from one of the content areas of social studies, science, or literature.

Data are presented in terms of cumulated research questions and individual reading profiles. Chapter 4 sets forth overall results related to the formulated research questions. This chapter presents the individual reading profiles. To describe and analyze each subject's unique employment of reading strategies with the different
selected passages in a school and non-school setting, a reading profile is developed for each subject. Each reading profile also investigates the individual subject's purpose for reading, retrospective miscue responses, personal model of the reading process, and his or her attitudes toward reading in general, and the subject areas of social studies, science, and English. This chapter consists of six reading profiles, one for each subject.

**Subject: Kim**

Kim is a mature, popular student who is successful in academic and other school activities. As an efficient reader, she reads the selected passages with confidence and poise. Kim reveals a very good self-concept as a reader. She describes herself as a good reader "because I read a lot of books. . . . I enjoy reading books. . . . it's easy for me to read." Kim likes to read in her spare time and finds reading a rewarding experience. This subject enjoys being a subject in this research and is constantly asking questions about the reading process such as "Why do I sometimes skip words?"

**Estes Attitude Scales**

This scale measures attitudes toward reading in general, social studies, science, and English. Scores for each scale have a possible range from 20 to 100.

Results from the **Estes Attitude Scales** shows that Kim has favorable attitudes toward: English (85), reading (83), social studies (80), and less favorable attitudes toward science (57). Other subjects have more favorable attitudes toward reading in general (Jane),
social studies (Tim), and science (Robert). Kim has the most favorable attitude toward English, higher than all other students.

Kim's Excerpts from Estes Attitude Scales

Strongly Disagree.

English is a subject of very little real value.
Books should only be read when they are assigned.
Cutting up animals in class is silly.
Man profits little from the study of the past.

Disagree.

Almost any subject is better than English.
Reading becomes boring after an hour.
Science is interesting.
Social studies is dull.

Cannot Decide.

Watching T.V. is better than reading.
It is fun to figure out how things work.
Social studies has little to offer the average student.

Agree.

English is fun.
Reading is rewarding to me.
Books about science are boring.
Social studies is interesting.

Strongly Agree.

Work in English class helps students do better work in other classes.
Knowledge of the past helps us understand the present.

Kim "strongly agreed" with two items, one in social studies and one in English on the Estes Attitude Scales. The majority of her responses range from "Agree" to "Disagree" on the five point scale.

Purposes for Reading

Kim indicates the following purposes for reading the selected passages.
Social Studies.
"The teacher would give it to you because she wanted you to learn about it"
"Maybe use it later in life"

Science.
"To use the information for whatever exercise you're going to do after you get done reading it"

Literature.
"Just for enjoyment and to read about summer activities"

Self-Selection.
"Just for entertainment"
"To read about people in my favorite T.V. show"

Kim does not appear to understand the teachers' specific purposes for reading the social studies or science passages. In all cases, however, she suggests that the reading would have personal gain for her as a reader. In the science passage she indicates that it may be related to a classroom experiment but this is still general in nature. Although social studies and science reading is done "to learn about a topic" or "to complete an assignment," she gives a more specific response for the purpose of reading the literature story, "to read about summer activities," and the self-selection passage "just for entertainment."
Kim's Personal Model of the Reading Process

Results of the Burke Reading Interview. Model of Reading:

Whole-Language.

<table>
<thead>
<tr>
<th>Typical Response</th>
<th>Number of Responses</th>
<th>Question Number (See specific question in Appendix A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonics:</td>
<td>2</td>
<td>8, 9a</td>
</tr>
<tr>
<td>&quot;they didn't know how to pronounce words&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word:</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>&quot;look it up in the dictionary&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole-Language:</td>
<td>9</td>
<td>1, 1a, 4</td>
</tr>
<tr>
<td>&quot;relate it to something else&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;just keep reading&quot;</td>
<td></td>
<td>6a, 7, 9</td>
</tr>
<tr>
<td>&quot;he reads a lot&quot;</td>
<td></td>
<td>10, 11, 12</td>
</tr>
<tr>
<td>&quot;I think she enjoys books&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kim has a whole-language model of reading. Only three responses suggest a phonic or skills-oriented model of reading. Comments such as "probably keep reading" and "I try and imagine it with something else" demonstrate a focus on being actively involved in obtaining meaning from the text. Kim has the same whole-language model of reading in a school and a non-school setting. She discusses reading fiction, animal books outside of school, and some labels, notes, "and a lot of stuff like that" in her home. She finds reading at home more relaxing because of lack of a time restraint. Kim suggests that books she selects are easier to read. Teacher-selected books are harder to read "because you're limited to what the teacher thinks you
should read." Similar to the other subjects in this study, Kim identifies a difference when reading in school and a non-school setting and when reading self-selected and teacher-assigned materials.

Summary of Reading Strategies with Social Studies, Science, Literature, and Self-Selection Materials

As an efficient reader, Kim has few difficulties reading the selected passages. Her mean score for miscues per hundred words on the four reading materials is 1.6. She successfully integrates the use of graphophonic, syntactic, and semantic cues to make predictions about the meaning of the text. Miscue analysis of the sentences including correction generated by Kim reveal the following findings: syntactic acceptability mean 99.2%, range 98%-100%; semantic acceptability mean 98.7%, range 98%-100%; and no change to the intended meaning mean 99.2%, range 98-100%. Her self-correction percentage has a mean of 9.5% and a range from 8% to 11%. But Kim makes few miscues that disrupt meaning and therefore require correction.

Her percentages of miscues with graphic similarity, sound similarity, and grammatical function similarity vary with the different materials. Miscues with high graphic similarity have a mean of 76.5% and range from 40% to 100%, and high sound similarity miscues have a mean of 81.7% and range from 60% to 100%. Miscues with the same grammatical function have a mean of 81.5% and range from 60% to 100%. Her low number of miscues may have some effect on these figures.
The following example, produced by Kim, shows a sentence that is syntactically and semantically acceptable but the miscue has no graphic similarity.

The borderline players knew that if they didn't make it with this brand new team they would probably slide right out of baseball.

The next example demonstrates a sentence that is not syntactically or semantically acceptable but the miscue has high graphic similarity.

We expect them to be able to do better in their areas of expertise than others who have not studied as hard or practiced as long.

The information from Kim's retellings indicates an understanding of the specific and major concepts, the events and themes of the selected passages. Her retelling scores: social studies (90), science (85), literature (90), and self-selection (95) illustrate Kim's ability to recall, describe, and discuss the new information. This subject's retelling scores are always higher than any of the other subjects, except for literature where Robert also receives a 90 retelling score. In the retelling of the social studies passage "Who Has Power?," Kim explains in detail the government's use of power for the general good of society. She demonstrates the ability to describe major concepts and relationships in her retelling of the science passage "Depending on One Another." An example of such a relationship involves plants and animals. Kim comments:
"Well, the sun gives the plants energy and they have a process called photosynthesis and the plants produce their own oxygen and they give that off and the animals . . . give off carbon dioxide."

This subject provides additional information and speculates about events during the retelling of the story "John Pappas Tries Out for the Mets." She speculates with amusement that the reporters are upset when Pappas does not make the team because they would not "get a big story." Kim provides a mature explanation of the author's purpose for writing the literature story. She thinks the author "wanted to let you know . . . the man's feelings about life . . . how they could relate to things you would do . . . if you tried something and you failed . . . he just went on to try other things."

Retrospective Miscue Procedures

Kim follows the retrospective miscue procedures with the science passage "Depending on One Another." She identifies 26% of her own miscues. Kim relates her miscues to her oral reading performance, commenting:

"I pronounced the word wrong"

"I didn't know that was a question" or

"I stopped and got a breath"

focus on intonation or an accurate oral presentation of the text.

Several of Kim's explanations give insight into the subject's whole-language model of reading. She comments on her ability to make predictions on line 29.
Line 29: What direct effects do you think the living things shown in Figure 2-1 have on one another.

Kim explains that she "paused right there in the middle of the sentence" (the correction). She continues about the reason for the pause:

"I think it's the number right there where it says 2-1 that caused the pause."

In this example the subject is reading and making predictions about meaning. When she encounters the number 2-1, which is not the most predictable language in written discourse, Kim pauses, thus causing the miscue and correction.

Although this subject has a whole-language model of reading, the miscue on line 80 illustrates her awareness of the use of graphic information when reading.

Line 80: The microscopic organisms that do this job are called decomposers.

Kim thinks that the two words "look closely the same" causing this miscue.

Miscue analysis of her initial reading indicates that all of the miscues Kim identifies during the retrospection result in syntactically acceptable sentences. The miscues have high graphic and sound similarity and the same grammatical function similarity. These miscues result in no major changes in meaning. Over 80% of the

16. circle around a word part, word or phrase indicates an omission.

17. indicates a corrected substitution.
identified miscues are from semantically acceptable sentences. She self-corrects over 74% of these recognized miscues.

Kim's responses are similar for all the identified miscues. She thinks her miscues are amusing and laughs during the whole procedure. Kim does not like to hear her voice on the tape recorder, but she is fascinated with the retrospective miscue procedures.

As an efficient reader, Kim is capable of using her reading to obtain meaning from the texts. Attitudes toward a content area or purpose for reading do not cause her miscue analysis percentages to vary a great deal. She has a good self-concept as a reader and demonstrates a whole-language model of reading. Kim indicates differences when reading in school and non-school settings and with teacher selected and self-selected materials. As an efficient reader, Kim has few difficulties reading a selected passage in either setting.

Subject: Robert

Robert is a serious, quiet student who is successful in school. He indicates many out-of-school interests such as sports and music. Robert reads books about these subjects. Robert reads slowly and often pauses to clear his throat. He provides the necessary expression and becomes actively involved in his reading. Robert enjoys reading about topics that interest him.

Estes Attitude Scales

Findings from the Estes Attitude Scales indicate that Robert has favorable attitudes toward science (87), reading in general (81), and less favorable attitudes toward English (72) and social studies (59).
Robert's score of 59 for the social studies is the lowest of any subject for this content area. His score of 87 for science is the highest among these subjects.

Robert's Excerpts from Estes Attitude Scales

**Strongly Disagree.**

Books are a bore.
Studying science is a waste of time.

**Disagree.**

The study of English is a waste of time.
Most books are too long and dull.
Cutting up animals in class is silly.
Man profits little from the study of the past.

**Cannot Decide**

English is boring.
Reading becomes boring after about half an hour.
Books about science are boring.
Social studies is the same year after year.

**Agree**

Time spent in English class is time well spent.
There are many books which I hope to read.
Science teaches people to think.
Social studies is dull.

**Strongly Agree**

Reading is rewarding to me.
Science is interesting.

Purpose for Reading

Robert gives the following purposes for reading the selected passages:
Social Studies.
"So you could know something about it"
"Use it for later on in life"

Science.
"To learn about what we're reading about"
"Maybe we can figure out... what it's talking about"

Literature.
"Just for fun"
"It's the end of the year... to pass the time away"

Self-Selection.
"So we can learn how the four teams that had been in the world series for the past two years had not made it last year"

Robert reads the science and social studies passages to learn and acquire new knowledge. He gives the same purpose for reading the self-selected passage, but in more specific terms. The literature passage is read "just for entertainment." Similar to Kim, the other efficient reader, Robert remarks that he would "use it [the information] later on in life." Robert does not mention the teachers' specific purposes for reading the social studies or science passages.

Robert's Personal Model of the Reading Process

Results of the Burke Reading Interview: Model of Reading:

Word-Oriented.
<table>
<thead>
<tr>
<th>Typical Responses</th>
<th>Number of Responses</th>
<th>Question Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phonics:</strong></td>
<td>2</td>
<td>1, 10</td>
</tr>
<tr>
<td>&quot;well the letters . . . try and figure out what they mean&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;she helps me sound it out&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Word:</strong></td>
<td>4</td>
<td>1a, 6a, 7, 11</td>
</tr>
<tr>
<td>&quot;look it up in the dictionary&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;ask us if we knew it&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;figure out the letters and vocabulary&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;learn more words&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Whole Language:</strong></td>
<td>2</td>
<td>4, 5</td>
</tr>
<tr>
<td>&quot;he'd read a book&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Robert has a predominantly word-oriented model of reading. His responses suggest that he is aware of some phonics and whole-language strategies. When he encounters something he does not know, this subject states that he uses a dictionary to find the meaning of a word. Good readers ask someone the meaning of an unknown word or they "work it out" (use phonics strategies to pronounce the word). Robert would use whole-language strategies to help a person having difficulty reading. He suggests that this person should "read a book" to improve. Robert learned to read by "learning new words and their sounds." He does not consider himself the "greatest reader" but he "reads O.K." To become a better reader Robert thinks he needs to read faster. Outside of school he likes to read mysteries, science fiction, magazines, and newspapers.

Robert detects a difference when reading in school and outside of school. At home a student decides when he or she wants to read. In
a school setting Robert comments, "When the teacher says you have to read you have to read." He also intimates a difference between self-selection and teacher-assigned materials. Sometimes teachers select books "you might not want to read." Robert reveals that he sometimes chooses reading materials "by the picture on the cover or the name."

Robert's responses to the Burke Reading Interview indicate a word-oriented model of reading. In contrast, Kim, the other efficient reader, has a whole language model of reading. Robert has less confidence in himself as a reader which may be reflected in his reading more slowly than Kim. He does not seem to be aware of his own strength as a reader which may suggest some of the strategies he uses that are not as efficient as Kim's. It may also explain his high percentage of self-correction.

Summary of Reading Strategies with Social Studies, Science, Literature, and Self-Selection Materials

Robert, an efficient reader, in most cases surpasses all readers except Kim. He produces a mean of 4.6 miscues per hundred words for the four reading materials which is not too different from the average or developing readers and much higher than Kim's .8 MFW. Miscue analysis of the sentences including corrections produced by Robert reveals the following results: syntactic acceptability mean 94.5%, range 93%-95%; semantic acceptability mean 92.2%, range 88%-96%; and a mean of 89.2%, with a range of 84%-91% that result in no change in meaning. Robert's pattern of successful self-correction has a mean of 45.7% and a range between 38% and 53% with the different materials.
While reading and confirming his predictions, Robert self-corrects many miscues that interfere with meaning and many that do not which may result from his lack of self confidence in reading.

The following example from the literature story illustrates Robert's self-corrected miscues that interfere with meaning.

**Line 40:** When Murphy shot him a look to see if he was being smart, Pappas looked down at his black pointy shoes.

The next example demonstrates a miscue Robert self-corrected that does not interfere with meaning.

**Line 76:** He pointed at four young Met pitchers who were taking turns throwing for batting practice.

Robert's percentages of graphic similarity, sound similarity, and grammatical function similarity vary with each selected passage. Miscues with high graphic similarity have a mean of 61.7% and range from 48% to 75%, high sound similarity have a mean of 48.0% and range from 36% to 60%. The same grammatical function as the text word category has a mean of 61.7% and ranges from 55% to 68%.

Like Kim, Robert is always concerned with acceptability of language and seeking the author's meaning, but he uses grammatical functions and graphophonic cues selectively.

Data from the miscue analysis indicate that Robert is using the syntactic, semantic, and graphophonic cues to obtain meaning from the print. His reading strategies do not fluctuate according to his attitude toward a content area or his purpose for reading the passages.

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18. Indicates a corrected substitution.
For example, his percentages for the social studies and science passages for the various miscue categories do not vary a great deal although his attitudes scores are quite different (59, 87). Like Kim, he is able to be flexible in his reading and use meaning-seeking strategies even on material he may find uninteresting.

Robert's retelling scores: social studies (80), science (80), literature (90), and self-selection (85) indicate an understanding of the major concepts and events of the various passages. Robert retells each passage slowly, concentrating on the specific details. He uses examples to explain the major concepts. In the retelling of the social studies passage, Robert gives several examples of authority: "like a doctor has authority over his patient . . . parents over their children . . . and teachers over the students and principal over the teacher."

Robert notes several items related to the character development of John Pappas, the central figure in the literature story. He describes Pappas' goal and several personal qualities that helped Pappas in the story. Robert speculates that the author wrote the story to explain "you may be good where you come from, like on a little league, but you're not real good on a big league."

Retrospective Miscue Procedure

Robert follows the retrospective miscue procedures with the literature story "John Pappas Tries Out for the Mets." He identifies 29% of the total miscues. Based on the Burke Reading Interview results, Robert has a word-oriented model of reading. Only two of his
retrospective responses reflect this model of reading. Retrospective responses also indicate that Robert is actively involved in constructing the author's meaning. Several miscues are a result of his background knowledge of baseball. He substitutes Pittsburgh for St. Petersburg because "Pittsburgh has a good team." Robert changes "world besides" to "world's best." He explains that "I was thinking the Mets were pretty good and I just forgot that this was a new major league team."

Several miscues, Robert decides, are caused by his oral reading performance. Comments such as "sometimes I just keep rolling along and then all of a sudden . . . maybe the comma right in front might have tripped it off . . . I probably didn't catch the period," suggest this concern and his attention to detail.

Miscue analysis of this story indicates that the majority of miscues Robert identifies (67% to 78%) result in syntactically and semantically acceptable sentences and cause no change in meaning 72% of the time. He self-correction about half (53%) of the identified miscues. He also has the following percentages for the other miscue analysis categories: high graphic similarity (72%), high sound similarity (86%), and the same grammatical functions (43%).

Robert concentrates and spends a great deal of time reflecting on his miscues. He studies the miscues in relation to the text before he makes a comment.

As an efficient reader, Robert uses his reading strategies to obtain meaning from the passages. He considers himself an average reader. Reading is a rewarding experience, but he would like to read at a faster pace. It is possible that Robert's own self-conscious view
of himself as a reader, and his word-oriented model of reading as a process is keeping him from reading more quickly.

Summary for Efficient Readers

Kim and Robert are identified as efficient readers for the study. Results of the Estes Attitude Scales indicate that both of these subjects have similar favorable attitudes toward reading in general: Kim (83), Robert (81). Kim, however, has more favorable attitudes toward social studies (80) and English (85) than for science (57). In comparison, Robert expresses more favorable attitudes toward science (87) than for English (72) or social studies (59).

Robert and Kim give rather general vague purposes for reading the social studies and science chapters. Both subjects advocate they would "use it later in life." The two students have more specific purposes such as "for entertainment," "to read about people in my favorite T.V. show" for reading the literature story and self-selection passage.

Kim has a whole-language model of reading whereas Robert has a word-oriented model. In a non-school setting, however, about 80% of their responses, according to the Burke Reading Interview reflect a whole-language model of reading. Kim confidently identifies herself as a good reader since she encounters few difficulties and reads a variety of books. Robert considers himself only an average or "so-so" reader. Faster reading, he thinks, would improve his reading ability. Reading in school, they suggest is harder inasmuch as the teacher
controls the time and materials read. Both subjects feel they should have a role in selecting reading materials.

Kim and Robert, as efficient readers, are capable of effectively varying their reading strategies to obtain meaning from print. Over 84% of the sentences they generate are syntactically and semantically acceptable and do not change the intended meaning of the passage.

Robert self-corrects a higher percentage of miscues than Kim (social studies [51%, 9%, respectively], science [53%, 11%, respectively], literature [41%, 8%, respectively], and self-selection [38%, 10%, respectively]). Robert, however, generates a mean score of 4.6 miscues per hundred words while Kim only produces 1.6 miscues per hundred words. Both readers' percentages of graphic similarity, sound similarity, grammatical function similarity vary with the different materials. Kim's ranges for these categories tend to be greater (graphic similarity 40%-100%, sound similarity 60%-100%, grammatical function similarity 60%-100%). Robert's ranges for the same categories are (graphic similarity 48%-75%, sound similarity 36%-56%, grammatical function similarity 55%-68%). The two readers have the identical retelling score for literature (90). Kim's retelling scores, however, are higher for social studies (90-80), science (85-80), and the self-selection (95-85). Their retellings indicate an understanding of the major concepts or events. Kim confidently retells each passage providing details and opinions. In contrast, Robert slowly retells the materials and carefully chooses each word.

Robert follows the retrospective miscue procedures with the literature story "John Pappas Tries Out for the Mets." He identifies
29% of the total miscues. Kim carries out the same procedure with the science chapter "Depending on One Another." She identifies 26% of her miscues. Both subjects relate some miscues to their oral reading performance. Robert also suggests that certain miscues are a result of his knowledge of the subject matter, in this instance baseball.

Miscue analysis of the initial readings indicate that over 66% of the miscues which they discover in the retrospective procedure result in syntactically and semantically acceptable sentences. Robert self-corrects 53% and Kim 74% of their identified miscues. More than 70% of miscues identified by these efficient readers have high graphic and sound similarity. All of Kim's and 43% of Robert's identified miscues have the same grammatical function.

Kim enjoys the retrospective miscue procedure, laughing and commenting on her reading performance. In comparison, Robert seriously reflects and studies the identified miscue before making his remarks.

As efficient readers, Kim and Robert have different attitudes toward specific disciplines, differing models of reading and different concepts of themselves as readers. Both subjects identify a difference when reading in school, and when reading self-selected and teacher assigned materials. As efficient readers, these subjects are able to vary their reading strategies to obtain meaning from print.

Kim may be a more selective reader using only the cues necessary and correcting only when necessary. Robert may be as effective as Kim in terms of acceptability, but he uses the surface features less flexibly than Kim and self-corrects more miscues. These
strategies plus his own model of the reading process suggest a less confident reader than Kim.

**Subject: Jane**

Jane, an average reader, is a shy, junior high school student. She always brings her favorite stuffed animal to the research sessions. During the reading of the selected passages Jane holds the book in one hand and the animal in the other. This subject indicates an interest in the data collection but does not enjoy listening to her oral reading on the tape recorder.

**Estes Attitude Scales**

Results from the *Estes Attitude Scales* indicate that Jane has favorable attitudes toward reading (95), social studies (87), and less favorable attitudes toward English (69) and science (60).

**Jane's Excerpts from Estes Attitude Scales**

**Strongly Disagree.**

The study of English is a waste of time.
Books are a bore.
An understanding of how the earth changes helps make a better world.
Social studies is the same year after year.

**Disagree.**

Almost any subject is better than English.
Reading is for learning but not for enjoyment.
It is fun to figure out how things work.
Social studies has little to offer the average student.

**Agree.**

Work in English class helps students do better work in other classes.
Reading is rewarding to me.
Studying science is a waste of time.
Social studies teachers are usually good teachers.
Strongly Agree.

Studying English in college would be valuable. Reading is a good way to spend spare time. Cutting up animals in class is silly. Social studies is interesting.

Jane scores higher on the measure of attitude toward reading (95) and social studies (87) than any other subject in this study. She indicates a strong dislike for science, this content area receives a score of 60, the third lowest score for this content area.

Purpose for Reading

Jane suggests the following purposes for reading the selected passages.

Social Studies.

"To understand about what happened before in the past"

"To learn about America and stuff"

Science.

"To find out what scientists are doing right now"

"Find out what they had to go through to learn all this stuff"

Literature.

"Just for enjoyment and for spring activities"

Self-Selection.

"Learn about polar bears and their surroundings"

Jane does not understand the teachers' purposes for assigning the social studies and science passages. Instead, she conveys general statements concerning the need to study these subjects. Neither of these purposes would provide any specific purpose for Jane to read or
understand the concepts discussed in these passages. Her responses suggest that reading should provide information.

Jane indicates a more specific purpose for reading the literature and self-selection materials. Here, she is going to read about spring activities for entertainment for herself and to learn about polar bears.

Jane's Personal Model of the Reading Process

<table>
<thead>
<tr>
<th>Results of the Burke Reading Interview. Model of Reading:</th>
</tr>
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<tbody>
<tr>
<td>Word/Whole Language.</td>
</tr>
<tr>
<td>Typical Responses</td>
</tr>
<tr>
<td>Phonics:</td>
</tr>
<tr>
<td>none</td>
</tr>
<tr>
<td>Word:</td>
</tr>
<tr>
<td>&quot;read over the word a couple of times&quot;</td>
</tr>
<tr>
<td>&quot;look it up in the dictionary&quot;</td>
</tr>
<tr>
<td>&quot;read one word and say it over and over&quot;</td>
</tr>
<tr>
<td>Whole Language:</td>
</tr>
<tr>
<td>&quot;I'd let it go&quot;</td>
</tr>
<tr>
<td>&quot;he reads a lot&quot;</td>
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<tr>
<td>&quot;try to help them understand what they were reading&quot;</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Number of Responses</td>
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<tr>
<td>---------------------</td>
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<tr>
<td>0</td>
</tr>
<tr>
<td>5</td>
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</table>

Responses to the Burke Reading Interview indicate a mixed word-oriented and whole-language model of reading. Jane suggests word-oriented strategies such as "look it up in the dictionary" or "read the word a couple of times" to solve reading difficulties. Good readers
"know a lot of words," but "they also read a great deal." This example shows how Jane combines the two models of reading in her responses. In school she suggests word-oriented strategies such as using a dictionary or asking a teacher the meaning of a word. In a non-school setting Jane's comments such as "he'd probably have them read the book" suggest a whole-language model. Jane considers herself a "so-so" reader. Like Robert, she thinks that reading slowly or regressing to obtain meaning is a bad habit. Outside of school she reads animal and adventure books, newspapers, magazines, signs, and some packages. Reading in school is usually done to complete an assignment. At home, Jane notes "you can just read you don't need a discussion or anything." Jane feels students want an opportunity to select their reading material. Teacher-selected materials are sometimes boring.

Summary of Reading Strategies with Social Studies, Science, Literature, and Self-Selection Materials

As an average reader, Jane's mean score for miscues per hundred words on the four reading materials is 4.4, slightly lower than Robert's. Miscue analysis of the sentences including correction generated by Jane indicate the following findings: syntactic acceptability mean 91.7%, range 85%-95%; semantic acceptability mean 87.2%, range 82%-92%; and a mean of 86.0% with a range of 81%-92% that results in no change in meaning.

Jane's self-correction patterns also vary with the different passages. The range of successfully self-corrected miscues has a mean of 32.5% and extends from 11% to 50%. Jane successfully self-corrects
more miscues with the science (50%) and literature (40%) passages. These content areas also receive the least favorable attitude scores, science (60), English (69).

Jane's percentages of miscues with high graphic similarity have a mean of 47% and range from 48% to 64%. Miscue percentages for high sound similarity have a mean of 46% and extend from 32% to 68%. The same grammatical function as the text word category has a mean of 67% and ranges from 56% to 80%.

These percentages are considerably lower than those for syntactic acceptability, semantic acceptability, and meaning change. For example, her percentages of syntactic acceptability including correction are: social studies (85%), science (93%), literature (94%), and self-selection (95%). In comparison, Jane's percentages of high graphic similarity are: social studies (48%), science (56%), literature (60%), and self-selection (64%). Therefore, like Robert and Kim, Jane more consistently shows a concern for making her reading sound like language and make sense. She shows high and somethat consistent concern with the author's meaning but uses the graphophonic system and grammatical system more selectively.

Information from the retellings indicates that Jane does not understand some of the major concepts or events. When retelling the social studies passage, Jane discusses two major concepts: power through positions and power of authority. She repeats these same concepts even when the researcher's questions inquire about other aspects of the selection. This subject becomes confused during the retelling of the science passage. Before the direct questioning of
the miscue procedure, Jane mentions the relationship between plants and animals and "this thing called photosynthesis." While retelling these concepts she confuses the details and provides incorrect information. For example, Jane thinks photosynthesis occurs "when they take in this stuff from the animals."

Jane's knowledge prior to her reading seems to be reflected in her retelling scores. She retells the literature and self-selection passages in greater detail. Her retelling scores for these passages are 75 and 88. She develops the character of John Pappas, the events of his tryout, and the reactions of the newspapermen. Jane feels the author wrote this story "for baseball fans" and to suggest that "people need a chance to fulfill their dreams, to see if they would become true." Jane's best retelling occurs with the self-selection material. She confidently retells the events of the article, carefully providing the needed description and detail. Jane's retelling scores for social studies and science (60, 55) are low when compared to her percentage for semantically acceptable: social studies (85%), science (93%), and no meaning change: social studies (83%), science (88%).

Although her attitude toward social studies is high (87), Jane's knowledge has not been expanded so that she understands the concepts in the particular selection of social studies material. She is able to comprehend while reading and make sense, but Jane is not equally able to integrate the knowledge to retell to another person what she has read in the expository materials. Her retelling scores are also 20 to 30 points lower than Kim, Robert, and Tim on both the social studies and science (see Table 13).
Retrospective Miscue Procedures

Jane follows the retrospective miscue procedures with the social studies passage, "Who Has Power?" She identifies 12% of her total miscues. This selection is the one in which Jane produces the lowest percentages for syntactic and semantic acceptability including correction (85%, 82%) and her retelling score is only 60 (see Tables 1 and 13). Jane proposes two explanations for her miscues. Some words, she explains "just looked the same." The following miscues are examples she identifies for this reason.

19. How much do you have?

Line 3: (How much) power do you have?

Line 125: What happens to power when a person loses his or her charisma?

A second reason for miscuing occurs when she is "putting it in my own words." Below are examples where Jane indicates she put the author's text into her own words.

Line 23: After a fast check of the car's license number, Officer the Herrick picked up his ticket book and began to walk toward the station wagon.

Line 65: They are our "mental blueprints" and tell us how to act what's right and wrong and what things are more important than other things.

This subject, an average reader, has mixed a word-oriented and whole-language model of reading. During the retrospective procedure Jane comments on line 30 that she substitutes "work" for "words" because

19. Indicates a corrected substitution.
of a confusion over the words. None of her other responses indicate a word or whole-language model of reading.

Half of the miscues (50%) Jane identifies, result in syntactically and semantically acceptable sentences that do not charge the intended meaning. She self-correction 25% of the identified miscues. She also has the following percentages for the other miscue analysis categories: high graphic similarity (40%), high sound similarity (60%), and the same grammatical functions (60%).

Jane's retrospective responses to her miscues indicate that she is actively involved in recreating the author's meaning. Jane comments on the difference she perceives when reading in different settings and with teacher-selected and self-selected materials. Jane is more successful understanding the literature and self-selection passages.

Jane considers herself just an average reader although she remarks that reading is a rewarding experience. Her use of syntactic, semantic, and graphophonic cues in the language of these passages, and her confirming and correcting strategies vary with the different reading materials.

Jane is considered an average reader by her teacher. She envisages herself an average reader yet on the science passage her percentages for the miscue categories of syntactic and semantic acceptability and no meaning change, range from 1% to 3% less than Robert, the efficient reader. On the literature story, her syntactic and semantic acceptability percentages range from 2% to 6% less than Robert and for no change in meaning her percentage is 1% higher. With the self-selection passage, she again produces close percentages to
Robert for syntactic and semantic acceptability and no meaning change. Her retelling score is 88, while Robert's is 85. These findings suggest that Jane is a relatively efficient reader with some materials and a better reader than her teachers and her reading scores seem to reflect.

Subject: Tim

Tim is a serious, cooperative junior high school student. During the research sessions Tim reads very quickly and often regresses after he loses his place or makes a miscue. Tim always grips the textbook firmly in his left hand and points to the words with his finger during the research sessions in school. When Tim reads at his home, he places the magazine on the floor and reads with his right hand placed about a paragraph above where is he currently reading. Tim discusses with the researcher an interest in books, reading, and sports.

Estes Attitude Scales

Results from the Estes Attitude Scales indicate that Tim has favorable attitudes toward social studies (83), science (81), English (81), and reading (91).

Tim's Excerpts from Estes Attitude Scales

Strongly Disagree.

English is a subject with very little real value.
Books are a bore.
If social studies changes, it is from bad to worse.

Disagree.

Almost any subject is better than English.
Watching T.V. is better than reading.
Studying science is a waste of time.
Social studies is the same year after year.

Agree.
Students should be required to take English every year.
There are many books I hope to read.
Science is interesting.

Strongly Agree.
Writing papers for English class is good practice.
Reading is a good way to spend spare time.
Science courses are worth the time and effort they take.
Social studies is interesting.

Scores from the Estes Attitude Scales indicate Tim has a positive attitude toward social studies, science, English, and reading. The mean of his scores for these measures is higher than any of the other subjects in this study although no one score is the highest for all subjects. In comparison, Jane, the other average reader has higher scores for social studies (87-83) and reading in general (95-91). Tim's measure for the Estes Attitude Scales is higher for science (81-60) and English (81-69).

Purposes for Reading
Tim suggests the following purposes for reading the selected passages.

Social Studies.
"Discuss the different aspects about it"
"Probably don't know too much about it right now"

Science.
"To learn more about science"
"To help you in later life"
Literature.

"We are discussing and talking about spring activities"

"It's just for pleasure"

Self-Selection.

"To know more about why Oakland and Toronto are getting a lot better this year"

Tim indicates general purposes for reading the social studies and science selections. A student reads these chapters to learn and acquire information. The literature selection is read "for pleasure" and to enable the reader to participate in a discussion. Tim reads the self-selection passage to learn more about the recent success of two baseball teams.

Tim's Personal Model of the Reading Process

Results of the Burke Reading Interview. Model of Reading: Whole Language.

<table>
<thead>
<tr>
<th>Typical Responses</th>
<th>Number of Responses</th>
<th>Question Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonics: none</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Word: &quot;might go ask the teacher&quot;</td>
<td>3</td>
<td>1a, 6, 7</td>
</tr>
<tr>
<td>&quot;she helps me with the words&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;probably looks it up in the dictionary&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Language:</td>
<td>9</td>
<td>1a, 4, 5, 6a</td>
</tr>
<tr>
<td>&quot;let them read a lot so that they can get good practice&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical Responses</td>
<td>Number of Responses</td>
<td>Question Number</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>&quot;get him interested in books he would like&quot;</td>
<td>8, 9, 9a</td>
<td></td>
</tr>
<tr>
<td>&quot;read a lot&quot;</td>
<td></td>
<td>12, 14</td>
</tr>
</tbody>
</table>

Tim has a whole-language model of reading. Only three responses suggest a word or skills model of reading. These responses are always secondary after Tim has already given a whole-language response. When Tim comes to something he does not know, he would "read it over again" and use the context of the passage to help him obtain meaning. Good readers, Tim suggests, read with expression and help other readers understand a selection. Good readers also re-read sentences when they come to something they do not know. Tim thinks students should read many books that interest them to improve their reading. Tim considers himself a good reader because he reads a lot, enjoys reading, and obtains meaning from print. This subject would like to be a better oral reader, and read at a faster rate. Outside of school Tim reads novels, magazines, and newspapers. Reading in school is usually associated with evaluation and a grade. In a non-school setting, Tim reads for interest and pleasure. Teacher-selected materials are sometimes boring. Tim likes to select his own reading materials.

Summary of Reading Strategies with Social Studies, Science, Literature, and Self-Selection Materials

As an average reader, Tim's mean for miscues per hundred words is 6.9 for the four reading materials. Miscue analysis of the sentences
including correction produced by Tim reveals the following results: syntactic acceptability mean 93.7%, range 86%-98%; semantic acceptability mean 88.0%, range 82%-94%; and no change to the intended meaning mean 88.7%, range 81%-94%. Like Jane, his scores are close to Robert's, sometimes having higher percentages than Robert. Tim's self-correction percentages have a mean of 37.2% and range from 30% to 44%. Percentages for this category are similar for social studies (44%), and literature (43%) passages and with the science (32%) and self-selection (30%) materials. His percentages of miscues with high graphic similarity have a mean of 68% and range from 52% to 80%. Percentages for high sound similarity have a mean of 50.0% and range from 44% to 60%. The same grammatical function as the text word category has a mean of 75.0% and range from 68% to 84%. His percentage for graphic similarity, sound similarity, and grammatical function similarity vary with the different texts. Tim's percentages for high graphic similarity: social studies (52%), science (72%), literature (80%), and self-selection (68%) demonstrate this research finding.

Results of the miscue analysis indicate that Tim's search for meaning like Kim's, Robert's, and Jane's is more consistent and higher than his use of other cueing systems. This reflects more of a selection process.

Tim's retelling scores indicate an understanding of each passage he read. His scores on the social studies passage (80), and on the self-selection passage (85) are the same as Robert's, an efficient reader's retelling scores. On both the literature (85), and science (75) passages, his scores are five points less than Robert's
scores. He explains several concepts in terms of his own experiences. For example, Tim describes a just use of power in the following manner:

"... if you were driving down Speedway and you got stopped for a ticket you might be mad for a little while but later on you could have got in an accident."

When retelling, Tim often corrects himself and expresses the information in another manner. Tim uses his background knowledge to help retell and explain certain concepts. During the retelling of the self-selection passage he discusses the Oakland pitching staff. Tim comments:

"there's one pitcher um, I think he's on the A's, who has a .36 ERA and that's really good cause that means they're about one run every game."

Retrospective Miscue Procedures

Tim follows the miscue retrospective procedures with the science passage "Depending on One Another." He identifies 9.8% of the total miscues. The science passage is the curricular material in which Tim has the lowest percentages for syntactic acceptability (86%), semantic acceptability (82%), and retelling scores (75). He indicates two possible causes for his miscues. The following miscues occur, Tim suggests, because the words look alike.

**Line 9: 2.2 What output**

20. $\text{produce}^{20}$

indicates a corrected substitution.
Line 12: Each also needs water and certain solid nutrients from the surrounding. The majority of miscues, Tim explains, are caused when he is looking at or thinking about other sentences or features in the text. Comments such as: "I was thinking of the line above" or "I looked down instead of staying on the line" are typical responses for the cause of these miscues. The subject also corrects each of these miscues. These examples demonstrate Tim's whole-language model of reading and an active involvement in recreating meaning.

Miscue analysis of Tim's initial reading indicates that over 90% of the miscues Tim identified during the retrospection come from syntactically and semantically acceptable sentences and result in no change in meaning. He self-corrects 72% of the identified miscues. More than 50% of the identified miscues have high graphic similarity, high sound similarity, and the same grammatical functions.

Tim has positive attitudes toward reading, social studies, science, and English. He gives a very general purpose for reading the social studies and science texts and a slightly more specific reason for reading the other passages. Tim is identified by his teachers and test scores as an average reader who is reading about at grade level. The results of the miscue analysis including retelling, strongly indicate Tim is an efficient reader. He has a whole-language model of reading and uses his reading strategies flexibly to obtain meaning from the different passages. Tim has a positive self-concept of himself as a reader. The results of the research sessions suggest that this subject is a relatively efficient, mature reader. Once more, a picture of an
average reader is indicated according to test scores and teacher evaluation, who reads better than his assessment.

**Summary for Average Readers**

Jane and Tim are identified as average readers for this study. Findings from the *Estes Attitude Scales* indicate that Jane has more favorable attitudes toward social studies (87-83) and reading in general (95-91). In comparison Tim has more favorable attitudes toward science (81-60) and English (81-69). These results are similar to the scores for the efficient readers, Kim and Robert. The female subjects have more favorable attitudes toward social studies and reading in general, the male subjects toward science. For English, however, Kim has the higher score for the efficient readers and Tim for the average readers.

Both subjects give vague general purposes for reading the science and social studies passages. Their purposes for reading the literature and self-selection materials are more specific.

According to the *Burke Reading Interview* Jane has a word/whole-language and Tim a whole-language model of reading. Yet in a non-school setting 94% of their responses reflect a whole-language model of reading as compared to 80% for the efficient readers. Similar to Robert, Jane considers herself a "so-so" or average reader. Tim, like Kim, confidently suggests he is a good reader because he enjoys it and reads a great deal.

Jane and Tim suggest an instructional purpose for reading in school. In this setting students read to complete an assignment or for
a grade. In a non-school setting, Tim comments that a student would also read for interest and pleasure. Both average readers feel that teacher assigned materials are sometimes boring. Like the efficient readers, Jane and Tim indicate a difference when reading in school and a non-school setting. All of these subjects, the efficient and average readers want an opportunity to select their reading materials in school.

Over 80% of the sentences Jane and Tim produce with the different materials are syntactically and semantically acceptable and do not change the intended meaning of the selection. In comparison their ranges for these categories are: syntactic acceptability (Jane 85%-95%, Tim 86%-98%); semantic acceptability (Jane 82%-92%, Tim 82%-94%); and no meaning change (Jane 81%-92%, Tim 81%-94%).

Both average readers' self-correction, graphic similarity, sound similarity, grammatical function similarity patterns vary with the different materials. Jane's percentages for self-selection range from 11%-50% whereas Tim's percentages have a range of 30%-44%. Jane's ranges tend to be higher for sound similarity (32%-68%) and grammatical function similarity (56%-80%). Tim's range is higher for graphic similarity (52%-80%). Both of these subjects are concerned with making the reading sound like language and obtaining meaning from print.

The retelling scores indicate that Tim has higher scores for social studies (80-60), science (75-55), and literature (85-75). Jane has a higher score for the self-selection passage (88-75). The findings also suggest that several of these scores are similar to those of the efficient readers. Tim and Robert have the same scores
for social studies (80) and self-selection. Jane's score on the self-selection passage of 88 is higher than Robert's score (85).

Tim confidently retells the selected passages and describes the major concepts and events. Jane has some difficulty explaining some of the concepts discussed in the social studies and science chapters.

Jane follows the retrospective miscue procedures with the social studies passage, "Who Has Power?" She identifies 12% of her total miscues. Tim carries out these procedures with the science selection "Depending on One Another." He identifies 9.8% of his total miscues. Both subjects indicate that their miscues occur because the words "looked the same." Jane suggests that she is also putting the author's text in her own words. Tim thinks another reason for miscuing occurs when he is looking at or thinking about other sentences in the text.

Initial miscue analysis of these passages indicates that for Jane more than 50% and for Tim about 90% of the miscues identified during the retrospection occur in syntactically and semantically acceptable sentences and result in no change in meaning. Jane and Tim, however, produce their lowest percentages for syntactic and semantic acceptability including correction with the passages (social studies and science) that they use to follow the retrospective miscue procedures.

Jane self-corrects 25% and Tim 72% of the identified miscues. More than 40% of the miscues these readers identified have high graphic and sound similarity and the same grammatical function.
As average readers, Jane's attitudes differ from Tim's attitudes toward science and English and they have much the same attitudes toward social studies and reading in general.

Jane has a mixed word-oriented and whole-language model of reading. She considers herself an average reader. In comparison, Tim has a whole-language model of reading and considers himself a good reader. Similar to Kim and Robert, both of these subjects indicate a difference when reading in a school and non-school setting and when reading self-selected and teacher assigned materials. Although these subjects are identified as average readers, they efficiently and effectively use their reading strategies to obtain meaning with some of the materials.

**Subject: Lynn**

Lynn is a developing reader who is described by her teacher as having difficulty adjusting to the junior high school program. A pleasant, cheerful student, Lynn reads the materials slowly and without confidence. She asks many questions during the research sessions to ensure that she is following the procedure correctly.

**Estes Attitude Scales**

Results of the Estes Attitude Scales show that Lynn has more favorable attitudes toward social studies (71) and reading in general (69) than toward English (55) and science (55).
Lynn's Excerpts from Estes Attitude Scales

**Strongly Disagree.**

Books should only be read when they are assigned.

**Disagree.**

The study of English is a waste of time.
Books are a bore.
Studying science is a waste of time.
Social studies is dull.

**Cannot Decide.**

English is fun.
Reading is something I can do without.
Science is interesting.
Man profits little from the study of the past.

**Agree.**

English is boring.
Reading is rewarding to me.
There is too much memory work in science.
Social studies teachers are usually good teachers.

**Strongly Agree.**

Most literature is dull.
Watching T.V. is better than reading.
Students should not be required to take science courses.
A student can often use what he learns in a social studies course.

Lynn does not have strong positive attitudes toward reading or any of the content areas. Her scores for science and English (55) are the lowest for any of the subjects. Lynn's score for reading is the second lowest while her score for social studies is third lowest of all the subjects. Lynn has very strong negative attitudes toward English. She agrees that any subject is better than English. Courses in this subject area are usually boring and the worst ones in school.
Purposes for Reading

Lynn indicates the following purposes for reading the selected passages.

**Social Studies.**
"To learn about the past"
"To learn about social studies"

**Science.**
"To learn about science"

**Literature.**
"To talk about it"
"Probably to answer questions"

**Self-Selection.**
"I wanted to read it"
"I like scary books and thrillers"
"To become scared . . ."

Lynn does not appear to understand the teachers' purposes for reading the social studies and science chapters or the literature story. Similar to the other subjects, her responses are general and vague in nature. None of the purposes suggested by the subject would help her in reading or understanding the content of the passages. Lynn reads the self-selection book for entertainment. Mystery stories are a favorite for this subject.
Lynn’s Personal Model of the Reading Process

Results of the Burke Reading Interview. Model of Reading:

Word.

<table>
<thead>
<tr>
<th>Typical Responses</th>
<th>Number of Responses</th>
<th>Question Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonics: &quot;be able to pronounce more words&quot;</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Word: &quot;ask my mom&quot;</td>
<td>5</td>
<td>1, 1a, 6a</td>
</tr>
<tr>
<td>&quot;help use with the words&quot;</td>
<td></td>
<td>7, 10</td>
</tr>
<tr>
<td>&quot;ask my teacher&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;go back and read it again&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Language:</td>
<td>3</td>
<td>4, 6, 9a</td>
</tr>
<tr>
<td>&quot;help him read books&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;ask him questions&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lynn has a word or skills model of reading. When Lynn has a reading difficulty in school she asks the teacher the meaning of the word. In non-school settings Lynn replied, "I just skip it." Good readers such as the teacher or her father, Lynn thinks, read slowly and understand the passages. They also skip anything they do not understand when reading. If a student is having trouble reading, Lynn would have this person attend a special reading class where students read easier books to "redo it with him and help him understand." Lynn learned to read by learning words and reading orally in a group. To become a better reader this subject wants to pronounce more words and gain more meaning from reading. Lynn thinks she is an average
reader. Adult books are difficult for her to read. Outside of school she enjoys mystery books and magazines.

Lynn usually reads silently in a non-school setting. At school she comments, "You have to read out loud in front of everybody else . . . I don't like that." Teacher-selected materials are sometimes difficult to relate to and are boring. This is not the case with self-selected materials.

Summary of Reading Strategies with Social Studies, Science, Literature, and Self-Selection Materials

Miscue analysis of the sentences including correction generated by Lynn reveals the following findings: syntactic acceptability mean 88.7%, range 82%-96%; semantic acceptability mean 80.0%, range 70%-88%; and no change to the intended meaning mean 77.7%, range 64%-85%. Her percentages for these miscue analysis categories are higher for the literature and self-selection passages than the social studies and science materials. To illustrate this finding Lynn's percentages for syntactically acceptable are: social studies (83%), science (82%), literature (94%), self-selection (96%).

Lynn self-corrects a mean of 17.5% of her miscues. The percentages for this category are: social studies (21%), science (8%), English (19%), and self-selection (22%). With the exception of Kim's and Jane's percentages for self-correction, Lynn's percentages are lower for this category than the efficient and average readers.

Lynn's percentages of miscues with high graphic similarity have a mean of 69.0% and range from 48% to 92%. Percentages for high sound
similarity have a mean of 53.0% and range from 36% to 64%. The same grammatical function as the text word category has a mean of 67% and ranges from 60% to 72%.

Lynn's percentages for graphic similarity, sound similarity, and grammatical function similarity are higher for the literature and self-selection passages than for the science and social studies. Her percentages for high graphic similarity: social studies (48%), science (52%), literature (92%), and self-selection (80%) demonstrate this finding.

Lynn is similar to the four other readers in that she uses the grammatical function cues and the graphophonic cues selectively; however, she is not as consistently concerned that her reading produces acceptable sentences as the other readers seem to be.

Lynn's retelling scores of social studies (40), science (35), English (50), and self-selection (70) indicate that she does not understand many of the concepts discussed in the different passages. She recalls several general concepts such as "power due to control" and "animals in their environment," but Lynn is not able to describe or discuss these concepts in detail. During the retellings of the social studies and science passages this subject often pauses and states that she has forgotten the information. Lynn is more confident when she retells the literature and self-selection stories. She briefly describes several major events such as Sandy and Nick's rescue of the young boy from the fog and John Pappas' tryout with the Mets, for each of these selections.
Lynn's percentages of syntactically and semantically acceptable sentences that result in no change to the intended meaning are higher than 76% for the social studies passage and over 63% for the science material. She is able to seek the author's meaning during her reading the majority of the time. Yet her retelling scores of 40 and 35 for the social studies and science selections respectively, demonstrate that the subject does not understand many of the concepts in these chapters. Comments such as "when they die they eat each other" or "like your mind can have power over people" are examples where the subject has not understood the concepts of power or the relationship between animals and their environment. These responses suggest that Lynn may have lacked previous background knowledge about these concepts. Lynn is, therefore, not able to integrate the new information in such a way that she can relate it to other knowledge.

When Lynn reads these passages she is very conscious of her oral reading performance. She seems to be concerned with an accurate reading of the selection and not in obtaining meaning from the passage. Her correction on line 55 of the social studies passage illustrates Lynn's concern for word accuracy when reading.

Line 55: Sometimes questions about right and wrong uses of power and control are very hard to answer.

Although "or" substitutes for "and" does not interfere with meaning in this sentence, Lynn feels it is necessary to correct this miscue.

21. Θ indicates a corrected substitution.
Retrospective Miscue Procedures

Lynn follows the miscue retrospective procedures with the literature story "John Pappas Tries Out for the Mets." She identifies 11% of her total miscues. Lynn relates several miscues to her oral reading performance. Lynn explains that the miscues in the following examples result when she "just kind of glanced at the name" or "I was in a hurry to read that sentence."

**Line 5**: In any major league clubhouse that spring, the equipment manager or the assistant trainer or maybe even the bat boy would have heaved John Pappas out the door.

**Line 8**: So Pappas just stood quietly in the hushed, green-carpeted clubhouse.

**Line 12**: The borderline players worked hardest of all, running extra laps around the outfield, taking long turns in the batting cage, . . .

Lynn has a word-oriented model of reading according to the Burke Reading Interview. Only two of her retrospective responses illustrate this model of reading. In the next example, Lynn did not produce the word "precinct"; instead she substituted the word "participant."

**Line 44**: I don't remember which precinct.

Lynn also comments that she changed "and soon" to "as soon as" in the example below because the words "kind of look the same."

---

22. $ indicates a non-word substitution.
Line 101: The ball field slowly emptied, and soon there was just Pappas and two or three of the younger newspapermen . . .

Miscue analysis of her initial reading indicates that over 55% of the miscues Lynn identifies during the retrospection occur in syntactically and semantically acceptable sentences that do not change the author's intended meaning. She does not self-correct any of the recognized miscues. Over 40% of the miscues Lynn identifies have high graphic similarity, sound similarity, and the same grammatical function as the text word.

Lynn is a developing reader. She does not have a positive self-concept of herself as a reader or positive attitudes toward reading, science, and English. Lynn has a word-oriented model of reading. In school she indicates that English is boring and most literature dull. In a non-school setting Lynn reads July Blume books and "thrillers." Lynn thinks that students should have the opportunity to choose reading materials because "you can relate to most of the ones you pick out . . . but like the ones teachers have you read aren't that good."

Lynn does not seem to be concerned with interacting with the author's meaning when she reads the social studies, science, and literature materials. Her percentages for syntactic acceptability, semantic acceptability, and change from the intended meaning are lower than those of Kim, Robert, Jane, and Tim. Her percentages, however, for graphic similarity, sound similarity, and grammatical function

23. \ indicates an insertion at the point where the insertion occurs.
similarity are within the range of percentages for these categories of the efficient and average readers.

It appears that Lynn reads these materials to complete the task regardless of whether it makes sense to her. Her self-correction percentages and retelling scores are lower than Robert, Jane, and Tim. After several unsuccessful attempts at correcting a miscue, Lynn comments "whatever" or "oh well" and continues reading. Lynn's percentages and retelling scores indicate that this subject is more concerned with meaning when she reads the self-selection story. Nevertheless, it appears that this subject often is more concerned with completing the reading task than comprehending.

Subject: Steve

Steve is a developing reader who is described by his teacher as a student who works hard and tries to be successful but who is having difficulty with reading. Steve reads the selected passages slowly, without confidence, one word at a time. Often he separates words as some primary children might do, pronouncing words such as allow, water, and pitcher as al-low, wa-ter, and pit-cher. With the exception of the self-selection material, this subject always follows the text with his finger and firmly grips the book at the top with the other hand. He carefully provides expression for each of the readings.

Throughout the interviews Steve reveals a very poor self-concept as a reader. He describes himself as "an average reader," "not good" because reading is hard. Steve could not decide if reading
is a rewarding experience. This subject is constantly apologizing for his performance throughout the research sessions with comments such as "I messed up," or "I said that wrong."

**Estes Attitude Scales**

Results of Steve's *Estes Attitude Scales* indicate more favorable attitudes toward science (85) and English (76) than toward reading (68) and social studies (64).

**Steve's Excerpts from Estes Attitude Scales**

**Strongly Disagree.**

Reading is something I can do without.
Social studies is dull.
There is too much memory work in science.
Work in English class helps students do better in other classes.

**Disagree.**

Reading is dull.
Almost any course is better than a social studies course.
Studying science is a waste of time.
English is boring.

**Cannot Decide.**

Books are a bore.
Social studies courses should not be required courses.
Science teaches people to think.
Most literature is dull.

**Agree.**

Books make good presents.
Social studies is interesting.
Science classes are usually fun.
Studying English is less tiring than studying other subjects.

**Strongly Agree.**

Spending allowance on books is a waste of good money.
A student can often use what he learns in a social studies course.
Science is interesting.
Steve's score of 68 for reading is the lowest for any of the subjects. In comparison to Lynn, the other developing reader, Steve has more favorable attitudes toward English (76-55) and science (85-55) and less favorable attitudes toward social studies (64-71).

Purposes for Reading

Steve suggests the following purposes for reading the selected passages.

Social Studies.

"To learn what it's about"

"To discuss it in class"

"Tell what it's about"

Science.

"To learn about science, the environment, and the world"

Literature.

"For fun"

"To just read stuff about spring and summer"

Self-Selection.

"To learn how kids learn to ski"

Steve's responses for the purpose of reading the social studies and science passages are vague and general. He reads the literature story for entertainment and the self-selection passage to learn about skiing.
Steve’s Personal Model of the Reading Process

Results of the Burke Reading Interview. Model of Reading: Word/Whole Language.

<table>
<thead>
<tr>
<th>Typical Responses</th>
<th>Number of Responses</th>
<th>Question Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonics:</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>none</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word:</td>
<td>5</td>
<td>Initial</td>
</tr>
<tr>
<td>&quot;go ask the teacher&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;look it up in the dictionary&quot;</td>
<td></td>
<td>1, 6, 6a</td>
</tr>
<tr>
<td>&quot;learn new words&quot;</td>
<td></td>
<td>7, 10</td>
</tr>
<tr>
<td>&quot;skip it&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole Language:</td>
<td>6</td>
<td>Secondary</td>
</tr>
<tr>
<td>&quot;he likes to read books&quot;</td>
<td></td>
<td>1a, 4, 5</td>
</tr>
<tr>
<td>&quot;assign you books&quot;</td>
<td></td>
<td>8, 9, 10</td>
</tr>
<tr>
<td>&quot;he reads a lot in school&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An analysis of the responses to the Burke Reading Interview reveals that Steve has a word model of reading although he is also concerned with whole-language at particular points. Responses such as "learn new words," "look it up in the dictionary" focus on the word as the unit of meaning. Good readers "like to read books" and "read a lot in school." They also use the dictionary to find meaning.

Steve does not discuss any phonics strategies. During the retrospective miscue procedures this subject uses phonics strategies in an attempt to pronounce "Carlotta" and "allow." Steve indicates that reading many good books would help a student become a better
reader. Steve learned to read in grade one. His teacher taught him "nice words and helped me learn new words." Reading is difficult for Steve. He wants to be able to read harder books in the future. Outside of school Steve enjoys reading mystery and sports books, magazines, and newspapers. He believes that students read in school in order to make reports or to discuss material. In a non-school setting, Steve notes, it is not necessary to read an entire book or article. Steve thinks many of the materials his teachers select are boring. He prefers to read a magazine or newspaper.

Summary of Reading Strategies with Social Studies, Science, Literature, and Self-Selection Materials

Miscue analysis of the sentences including correction produced by Steve indicate the following findings: syntactic acceptability mean 84.0%, range 79%-91%; semantic acceptability 75.2%, range 67%-80%; and no change to the intended meaning mean 73.5%, range 67%-78%. Steve's percentages for this miscue category do not vary a great deal. As an example his percentages of sentences that result in no change of meaning are: social studies (73%), science (76%), literature (78%), and self-selection (67%). In syntactic and semantic acceptability his percentages are always over 78% and 66%, respectively. In all but the science passage, Steve has the lowest percentages of semantically and syntactically acceptable sentences. Steve's percentages of successfully self-corrected miscues have a mean of 20.2%, and vary with the different reading materials but not as much as some of the other readers. The percentages have a range of 8% from 17% to 25%. 
His percentages of miscues with high graphic similarity have a mean of 76.0% and range from 52% to 92%. Percentages for high sound similarity have a mean of 67% and range from 44% to 80%. The same grammatical function as the text word category has a mean of 63.0% and ranges from 48% to 76%.

Results of the retellings indicate that Steve does not understand many of the concepts discussed in the different passages. He has the lowest retelling scores for all reading except for science, where Lynn scores the lowest with 35 and Steve is next with 40.

This subject gives a general summary of one or two concepts for the social studies and science passages. He retells the selections in terms of his view of the concepts. People, Steve comments, have power by "forcing their way or beating somebody up." For retelling the science passage he recalls new terms but he does not understand the related concepts. Steve observes how plants need to get "sun from the photosynthesis ray" in order to grow. When this subject retells the literature and self-selection passages, he discusses several events in greater detail. After reading "John Pappas Tries Out for the Mets," Steve elaborates on the nature of spring training and the process of assigning players to major or minor league teams. When retelling the self-selection passage, he comments on the psychological difficulties adults sometimes encounter trying to learn a new sport. Although he mentions the names of several characters, Steve does not describe these people in detail. His retelling scores of social studies (25), science (40), literature (50), and self-selection (65)
indicate that he provides most of the surface details with the self-
selection passage and the least with the social studies.

Steve's percentages of syntactically and semantically
acceptable sentences that result in no change to the intended meaning
are over 72% for the content areas of social studies and science. His
retelling scores for these subject areas (social studies 25, science 40)
illustrate a lack of understanding by this subject. There are several
possible explanations for these results. From the information Steve
provides during the retelling, it is apparent that he has little
previous knowledge or experience dealing with the concepts of power or
the relationship between plants and animals. Steve is not certain why
the teacher assigns these passages. This subject comments that he
reads mystery and sports books, magazines, and newspapers. He does
not have a great deal of experience reading an expository style of
writing used in the science and social studies texts. Steve uses his
background and experience when it is available but like Lynn, he does
not seem to have the conceptual background to integrate the new
concepts, even though Steve produces sentences that usually result in
acceptability.

Retrospective Miscue Procedures

Steve follows the retrospective miscue procedures with the
social studies passage "Who Has Power?" He identifies 31% of his
miscues, the highest percentage for any subject in this study.
Steve suggests two reasons for his miscues. For the following example Steve indicates the observed responses "sounded better" than the expected response.

Line 45: A three-month-old baby has a great deal of power over the lives of his or her parents. . .

Line 74: If you value wealth very highly people or things that control your wealth will be especially important in your life.

Miscues are also caused by the graphic or sound similarity of two words. Steve identifies miscues below as "looking the same" or "sounding the same."

Line 40: People are hardly ever equal in the amounts of power they can use.

Line 47: The ability to influence others changes as the situation that people find themselves in changes.

Steve also comments on his repeating a word or phrase in anticipation of difficulty.

Line 27: There was the cotton candymaker and the Pass It game right next to one another.

The words Pass It are placed in italics by the author. In anticipation of these words, Steve repeats the words "and the." He calls this procedure overlapping.

Steve has a word-oriented model of reading. Several retrospective responses illustrate this view. Comments such as "I was going to have problems with the word," "I got confused with the words" indicates an anticipating difficulty with a subsequent word.
demonstrate Steve's concern for word accuracy when reading this chapter. Although none of Steve's responses to the **Burke Reading Interview** suggest a phonics model of reading, he employs phonics strategies to pronounce the words "Carlotta" and "allow." Steve comments "it started out with the word 'car' and then 'lotta,' and I put them together into 'Carlotta.'"

Miscue analysis of Steve's initial reading indicates that over 50% of the miscues this subject identifies during the retrospection result in syntactically and semantically acceptable sentences with no change to the intended meaning. More than 50% of these identified miscues are self-corrected and have high graphic similarity, sound similarity, and the same grammatical function as the text word.

Steve is a developing reader with a predominantly word oriented model of reading. He has a negative concept of himself as a reader and an unfavorable attitude toward this subject. Results of his miscue analysis and retrospective procedures illustrate that Steve focuses on his reading performance and does not seem concerned with constructing the author's meaning. This may also be supported by the focus Steve has on the graphophonic cueing system to the exclusion of meaning. For the miscue categories: syntactic acceptability, semantic acceptability, no meaning change, and the retelling scores, Steve has the lowest for all the subjects on three out of the four selections. In comparison his graphic and sound similarity scores are often the highest or near the highest. This suggests a focus on the surface features of language, minimizing the significance of searching for meaning.
**Summary for Developing Readers**

Lynn and Steve are identified as developing readers for this study. Results of the Estes Attitude Scales indicate that both of these subjects have similar attitudes toward reading in general (Lynn 69, Steve 68). Steve, however, has more favorable attitudes toward English (76-55) and science (86-55) while Lynn has more favorable attitudes toward social studies (71-64).

Typical of the other subjects in this study, Lynn and Steve give general, vague purposes for reading the social studies and science passages. Both readers have a more definite purpose for reading the literature and the self-selection passages.

Lynn and Steve have a predominantly word-oriented model of reading although Steve gives some whole-language responses. Neither subject has a positive view of themselves as readers. Their personal models of reading in a school setting reflect instructional procedures. Lynn does not like to read orally in class. Steve suggests that students read in school to complete reports. Both students want the opportunity to select different kinds of reading materials in school.

Miscue analysis reveals that over 66% of the sentences produced by Lynn and Steve are syntactically acceptable, semantically acceptable with no change to the intended meaning. Their percentages for these categories tend to be higher with the literature and self-selection materials. In these categories Lynn and Steve tend to produce the lowest percentage of syntactically and semantically acceptable sentences with no meaning change when compared with the other readers. Lynn's pattern of self correction varies with the different passages
with a range of 14%, from 8% to 22%. Steve's percentages for these categories also varies from 17% to 25% with a range of 8%.

Their percentages for graphic similarity, sound similarity, and grammatical function similarity also fluctuate with the different reading selections. Steve's percentages for these categories tend to be higher than Lynn's scores. Both Steve and Lynn, however, tend to produce higher percentages of high graphic similarity substitution miscues than the other readers.

The two subjects have the same retelling score (50) for the literature story. Lynn has higher scores for the self-selection (70-65), and social studies (40-25) passages, whereas Steve has the higher score for science (40-35). Although both of these subjects produce sentences that are syntactically acceptable, semantically acceptable, and result in no change in meaning, over 63% of the time, these developing readers have difficulty integrating the new information with their previous knowledge. Their retelling results for social studies, science, literature, and self-selection passages are lower than the scores for the efficient and average readers. These scores suggest that although the developing readers use all the cueing systems, they tend to use surface cueing systems like graphic similarity to a greater extent than searching for meaning.

Lynn follows the retrospective miscue procedures with the literature story "John Pappas Tries Out for the Mets." She identifies 11% of her total miscues. Steve carries out the same procedures with the passage "Who Has Power?" He identifies 31% of his total miscues. Lynn relates her miscues to her oral reading performance. Steve
identifies graphic similarity, sound similarity, and putting the
author's words into his own language as causes for miscues. Steve
also comments on several cases where he repeats a word or phrase in
anticipation of a difficulty with a subsequent word.

Initial miscue analysis reveals that over 50% of the identified
miscues in the retrospective procedure result in syntactically and
semantically acceptable sentences with no change to the intended
meaning. Lynn does not self-correct any of her identified miscues.
In comparison Steve self-corrected half of the miscues he identified.
More than 40% of the miscues the developing readers recognize have high
graphic similarity, sound similarity, and the same grammatical function
as the text word. Both subjects' retrospective responses reflect their
word-oriented model of reading.

As developing readers, Lynn and Steve have similar attitudes
toward reading and differing attitudes toward specific disciplines.
Both subjects do not have a positive self-concept of themselves as
readers. They identify differences when reading in different settings
and with self-selected and teacher assigned materials. As developing
readers, these subjects are not always able to obtain meaning from
print. Rather they seem to be more concerned with attending to surface
features of language than meaning.

This chapter presents the individual reading profiles. These
profiles examine each student's reading strategies with different
selected passages in a school and non-school setting. The reading
profiles also examine the students' purposes for reading, retrospective
miscue responses, personal models of the reading process, and his or her
attitudes toward reading in general, and the subject areas of social studies, science, and literature.
CHAPTER 6

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this study is to investigate the reading strategies six junior high school students use when reading different content area materials in school, and a self-selected passage in a non-school setting. In addition to their reading strategies, the subjects' purposes for reading, their personal models of the reading process, and their attitudes toward reading in general, the subject areas of social studies, science, and English are examined.

Summary

Subject

The six subjects for this study are seventh grade students from a suburban junior high school in Tucson, Arizona. On the basis of teacher evaluation and their scores on a standardized reading test, two efficient, two average, and two developing readers have been identified and selected.

General Procedures for This Study

The subjects completed the Burke Reading Interview and the Estes Attitude Scales. Before reading, all subjects are asked the purpose for reading the selected passages. They read a social studies, science, and literature selection in a school setting. The six junior high school subjects also read a self-selected passage at their homes.
Miscue analysis procedures are followed and carried out in response to each of the selected passages. Retrospective miscue responses are then recorded for each subject from one content area.

By analyzing the scores from the Estes Attitude Scales, the researcher obtains attitude measures toward reading, English, science, and social studies. Burke Reading Interview responses reflect the subjects' personal models of the reading process in school and in a non-school setting, their views of themselves as readers, a comparison of reading in school and outside of school, and a comparison of teacher-assigned and self-selected reading materials. The students' views of the purposes for reading social studies and science chapters, the literature selection, and the student-selected reading materials are recorded before the oral reading of the text.

An analysis of these variables with the miscues and retrospective data indicates the extent to which attitudes, purposes for reading, models of the reading process, and selection of reading materials have an effect on the subjects' reading strategies.

The significant findings from Chapters 4 and 5 are summarized after each research question.

Research Question I

On the basis of miscue analysis procedures, to what degree do students employ different reading strategies with differing curricular materials (social studies, science, literature, and self-selection)?

Analysis of the data indicates the following significant research findings.
1. Different students produce differing percentages of syntactically and semantically acceptable sentences and these percentages vary depending on the material being read. A mean of at least 75.2% of the sentences, including corrections, generated by any of the readers are syntactically and semantically acceptable. Although Kim has the highest semantic and syntactic acceptability percentages with the narrowest range for each type of material, the rank order varies for the other students.

2. Students vary in the degree of change from the author's text they produce with different materials. However, a mean of at least 73.5% of all the sentences (including corrections) results in no change at all to the intended meaning. The efficient readers have higher total means than the average and developing readers. Nevertheless, even Lynn and Steve, the developing readers, have means of 77.7% and 73.5%, respectively. Again, Kim has the highest percentage with each type of material, although the rank order for the other students varies with different materials. The students generate more sentences that result in major change of meaning with the expository passages (social studies and science mean of 9.9%) than with the narrative passages (literature and self-selection mean of 7.5%).

3. All of the students use correcting strategies to regress, gather additional information, and recover meaning. Their patterns of successful self-correction vary for the social studies, science, literature, and self-selection passage. With the exception of one subject, Kim, the efficient and average
readers have higher total means of successfully corrected miscues (Robert 45.7%, Jane 32.5%, and Tim 37.2%) than the developing readers (Lynn 17.5% and Steve 20.2%).

4. The readers produce different percentages of miscues with graphic similarity, sound similarity, and grammatical function similarity with the differing curricular materials. Similar to other findings, the results indicate that the rank order of the subjects' percentages for these miscue analysis categories varies with the different materials. The rank order also varies when compared with the results for syntactic acceptability, semantic acceptability, and meaning change for each passage.

The efficient and average readers, however, consistently demonstrate a concern for meaning reflected by higher percentages for the miscue categories of syntactic acceptability, semantic acceptability, no meaning change, and higher retelling scores. Their selective use of graphophonic and grammatical cues is reflected by inconsistent percentages for graphic similarity, sound similarity, and grammatical function similarity.

The two developing readers show less concern for meaning and this is reflected by lower scores for the miscue categories, syntactic acceptability, semantic acceptability, no meaning change, and the retelling scores. They often have higher percentages for graphic and sound similarity.
5. The efficient readers' retelling scores do not vary much in relation to the different curricular materials. The average readers' retelling scores are sometimes similar to the efficient readers depending on the curricular materials. The developing readers' retelling scores indicate that these readers are not able to provide an adequate retelling. All of the readers, with the exception of Kim, have higher retelling scores with the literature story and the self-selection passage than with the science and social studies selections. Their retelling scores do not always correspond with the readability formula ratings. The readability ratings suggest that the literature story should be more difficult than the other test materials for these students to read and understand. All of the subjects have higher retelling scores for the literature passage, and four of the six students find it easier on several measures.

6. During the oral reading of the science and social studies passages, none of the subjects read the captions, figures, or charts that are part of these chapters and are commonly found in content area textbooks. Each of the subjects indicated they never read these features of the textbook when they have a reading assignment in these content area materials.

7. Students produce retrospective responses that indicate some awareness of their personal reading strategies. They vary in their willingness and ability to recreate and verbalize their thinking. Nevertheless, the retrospective responses also
demonstrate the readers' active involvement in the reconstruction of meaning.

Evaluation of Miscue Analysis as a Research Procedure for Examining Junior High School Students' Reading Strategies

Miscue analysis, and specifically the Reading Miscue Inventory: Evaluation Form, appears to be a useful procedure for investigating the reading strategies of junior high school students with different reading materials. This procedure allows a researcher to investigate students' reading strategies under reading conditions similar to those in their classrooms and in a real world setting. The data from such an analysis yield knowledge about the students' use of their reading strategies. The researcher can identify and analyze how the readers vary in their employment of reading strategies to process different passages. Miscue analysis also provides insight into the difference between the readers' search for meaning during reading and their ability to integrate and retell new information.

In this study miscue analysis also reveals that all of the students have lower retelling scores with the expository (social studies and science) passages. The passages in both of these subject areas have a heavy conceptual load. The series of charts and diagrams the authors include to help the students understand these new concepts are ignored by all of the readers. Therefore, as a research technique retellings provide insights into junior high school students' ability to relate information from expository texts. Experience reading narrative materials facilitates the students' development of a story
schema which may result in better retelling scores for these materials. Similarly, experience reading expository texts would help the students develop a schema for these materials. Such experience reading different kinds of expository texts may assist the development of new schemata resulting in higher retelling scores. However, modifying retellings to relate more to content areas may provide other kinds of insights into the reader's recall of different kinds of texts. Researchers may decide to develop different kinds of retelling for social studies or science passages in keeping with the schema of expository texts. As an example students could retell a certain portion of an expository text after they complete reading about a certain general concept. Researchers might also ask students to retell an expository text in terms of charts or diagrams rather than recalling a series of facts. Miscue analysis is a useful research procedure for examining the reading strategies of junior high school students.

Evaluation of the Retrospective Miscue Procedure as a Research Technique

Retrospective miscue procedures in this study ask the subjects to identify and to comment on their miscues while listening to the playback of their oral reading of a selected passage. To improve these techniques researchers need to spend some time discussing the reading process with the subjects to lessen any negative notions about miscues. Subjects, such as junior high school students, need practice reflecting and verbalizing their thinking to become familiar with these procedures. Since the retrospective miscue procedure requires a good deal of concentration, the researcher may choose to use this technique for only a
segment of a passage to avoid fatigue. The retrospective miscue pro-
cedure presents the students with an opportunity to examine and to
comment on their reading strategies. They also offer the researcher
insights into the students' awareness of their reading strategies.

Research Question II: Attitudes
and Reading Strategies

On the basis of the Burke Reading Interview, Estes Attitude
Scales, and miscue analysis procedures, to what degree do reading
strategies vary according to students' attitudes toward reading in
general or toward a specific discipline?

Analysis of the data reveal the following findings.

8. Each pair of readers—efficient, average, and developing—has
similar attitudes toward reading in general.

9. The male subjects have more favorable attitudes toward science.

10. The female subjects have more favorable attitudes toward
social studies.

11. Male and female subjects have much the same attitude toward
English and reading in general.

12. There is no important revealing relationship between readers'
attitudes toward reading in general, social studies, science,
and English and their percentages of syntactically and
semantically acceptable sentences.

13. There is no important revealing relationship between the
subjects' attitudes toward reading in general, social studies,
science, and English and their percentages of change in
meaning.
14. Readers with more positive attitudes toward reading according to the *Estes Attitude Scales*, with the exception of one subject, Kim, tend to self-correct a higher percentage of miscues.

15. Readers with differing attitudes toward social studies, science, and English demonstrate no relationship between scores on the *Estes Attitude Scales* and self-correction.

16. There is no important revealing relationship between the subjects' attitudes toward reading in general, social studies, science, and English and the percentage of miscues with graphic similarity, sound similarity, or grammatical function similarity.

17. Subjects with a positive self-concept as readers, according to the *Burke Reading Interview*, produce higher percentages of sentences that are syntactically and semantically acceptable and sentences that result in no change to the intended meaning.

18. There is no apparent relationship between self-concept as readers and the percentages for the self-correction, graphic similarity, sound similarity, and grammatical function similarity categories.

19. Subjects with a positive view of themselves as readers, according to the *Burke Reading Interview*, have higher retelling scores in the content areas of social studies, science, and English.
Evaluation of the *Estes Attitude Scales* and the *Burke Reading Interview* as Research Instruments

**Estes Attitude Scales.** In this investigation, the results from the *Estes Attitude Scales* evaluate junior high school students' general attitudes toward social studies, science, English, and reading. As a research instrument, however, the *Estes Attitude Scales* may not be sensitive enough to detect specific attitudes toward a particular component in each subject area. Replies to items such as "English is boring" or "Social Studies is dull," as examples, reveal indecision on the part of the student, a general favorable or an unfavorable attitude toward these subject areas. But the scores for these items do not suggest what aspects of English or social studies the students agree or disagree are boring or dull.

The students' attitudes toward reading also demonstrate that the attitude scores according to the *Estes Attitude Scales* are general in nature. Regardless of their attitudes toward reading, which range from Steve 68 to Jane 95, all of the students seem to read on their own in a non-school setting.

Although such is the case, the *Estes Attitude Scales* are effective research instruments for evaluating junior high school students' general attitudes toward social studies, science, English, and reading. The students have no difficulty reading the items or marking the answer sheets. Responses to the items are quickly scored to provide information for analysis and comparison.

**Burke Reading Interview.** The *Burke Reading Interview* was administered in this study to elicit information about the students'
personal model of the reading process. The open-ended questions allow the students to decide on the unit of focus. The students' responses give the researcher insights into their beliefs concerning personal reading strategies, qualities of a good reader, reading instruction, recollections about learning to read, and their opinions of themselves as readers.

Since this study deals with reading in two settings, and the selection of reading materials, additional questions were included with this instrument. This procedure gives the researcher information about any differences or similarities the students perceive concerning reading in a school or non-school setting or when reading teacher-assigned or self-selected materials. A comparison of the findings for the Burke Reading Interview and miscue analysis gives the researcher insights into some of the reading strategies the students believe they employ and the actual strategies the readers use with different materials.

The students in this study encounter little difficulty understanding or responding to these questions during the interview. None of the subjects reply "I don't know," a standard response of junior high school students. They often require a few moments to reflect before stating their ideas.

The Burke Reading Interview is a useful research instrument to acquire insights about the subjects' personal modes of the reading process. Related items can be included to the original statement to obtain additional information.
Research Question III: Reading in Different Settings

How do readers' responses vary depending on whether they are reading in school or in a non-school setting? Analysis of the data illustrates the following research findings.

20. The subjects' responses to the Burke Reading Interview vary depending on whether they are reading in school or in a non-school setting. In a school setting the students perceive that the teacher controls the selection of materials, purposes for reading, when reading takes place, the kind of reading (oral or silent), and the length of the reading assignments. About 70% of their responses to questions dealing with reading in a school setting reflect a word-oriented or skills model of reading. In a non-school setting students select the reading materials and the purpose for reading. Students also decide when to read and whether they want to read an entire story or article. About 80% of the responses to the Burke Reading Interview dealing with reading in a non-school setting suggest a whole-language model of reading.

21. There is no difference to note between the percentages in the miscue analysis categories for the passage the subjects read in a non-school setting and the percentages for the social studies, science, and literature selections the students read in a school setting.

22. Retelling scores are highest for the passages the students read in a non-school setting.
23. The students are more relaxed and confident reading in a non-
school setting.

Research Question IV: The Selection
of Reading Materials

How do readers' responses vary depending on whether the material
has been assigned by the teacher or has been self-selected? Analysis
of the data indicates the following research findings.

24. The students' responses vary depending on whether the materials
are teacher-assigned or self-selected. According to the sub-
jects, teacher-selected materials are not always interesting,
not easy to read, and do not allow for student choice of
materials. Self-selected materials are easier to read and re-
fect the student's interest in various topics, and would not
necessarily be the same as those assigned by the teacher.

25. There appears to be no difference between the percentages in
the miscue analysis categories for teacher-selected social
studies, science, and literature materials and the self-
selected articles and stories.

Research Question V:
The Purpose for Reading

How do readers' strategies vary depending on their purpose for
reading? Analysis of the data reveals the following research findings.

26. The subjects indicate a vague, general purpose for reading the
social studies and science materials. Purposes for reading the
literature and self-selection passages are more specific.
27. No difference between the percentages in the miscue analysis category for the passages read for a specific purpose and those read for a more vague, general purpose is shown.

28. The subjects have higher retelling scores for the passages read for a specific purpose.

Evaluation of the Research Techniques to Determine the Students' Views About the Teachers' Purposes for Reading the Assignments

In this study the researcher interviewed the social studies, science, and English teachers to determine their purposes for the student's reading the assigned materials. Classroom observations indicate the instruction and procedures these teachers follow before the students read the passages.

Identical procedures were followed during the research sessions. The researcher asked questions such as "Lynn, what is the purpose for reading this science passage in class?" to determine the students' view of the purpose for reading the selected passage.

General and vague responses in the content areas of social studies and science may suggest that the questions are not sensitive enough to elicit the students' views for reading these materials. Similar questions, however, gain more specific results for the literature and self-selection passages. Questioning other students in these classes would determine if the teachers' instruction or the researcher's questions generate these vague general responses.

Students in this study have no difficulty following these procedures. This technique of replicating the teachers' instructions
enables the researcher to duplicate classroom procedure. Observation of the classes is essential to be sure the research procedures are as close as possible to those the teachers use with their students.

Conclusions

Based on the findings the following conclusions are reached.

All of the students employ recognition, prediction, confirmation, correction, and termination reading strategies when reading for diverse purposes the teacher-assigned social studies, science, and literature selections in a school setting. They use the same strategies while reading for their own purposes the self-selected materials in a non-school setting.

The students vary in their ability to adjust their reading strategies to meet the specific demands of different curricular materials. The proficient readers use their reading strategies flexibly to focus more on meaning regardless of the curricular materials. They use surface linguistic features more selectively. The developing readers are inconsistent in how they integrate the strategies, often focusing more on the graphophonic cue systems. Miscue analysis provides insights into the ability of a reader and the difficulty of the text for the reader.

Scores from readability formulas and standardized reading tests do not indicate the students' ability to adjust their reading strategies for different kinds of texts, nor provide data on how easy or hard a given passage will be.
Retrospective miscue responses indicate the students' awareness of some of their sampling, predicting, confirming, and correcting strategies. The responses also demonstrate an active involvement in the construction of meaning. Retrospective techniques may be applied to classrooms as a research technique and as an instructional strategy.

Students' attitudes toward a specific discipline do not influence the degree to which the readers vary their reading strategies. Students with a positive attitude toward reading and those with a positive self-concept of themselves as readers use reading strategies that demonstrate more of a concern for obtaining meaning than students with negative attitudes. Meaning-seeking concerns may override attitudes for these readers.

These junior high school students have different perceptions of reading in school and in non-school settings. Reading in school reflects a skills-model instruction. In a non-school setting students have more of a concern for obtaining meaning from print. The students' reading strategies vary in similar ways in a school and non-school setting. Retelling stories suggests possible differences between in-school and out-of-school reading.

The students express a preference for self-selected materials rather than those assigned by the teacher. The readers also indicate that they would like a greater opportunity to select their own reading materials. The selection of reading materials does not influence the degree to which the students vary their reading strategies.

The students do not understand the purposes for reading the teacher-assigned materials. They have a definite purpose for reading
the self-selected passages. Their reading strategies do not vary according to the purposes for reading a selection. The students are capable of retaining more meaning with the material they read for a specific purpose than those they read for a general purpose.

The students do not demonstrate difficulty reading in terms of using the process as much as they have dealing with the content being discussed. As readers these subjects are actively seeking meaning from print. They make successful predictions or correct their miscues based on their prior knowledge of language and of their world, although better readers are more adept at this process. A lack of prior knowledge based on experience makes it difficult for the students to construct the author's meaning and to integrate the new information with their previous knowledge.

Implications

Research

The present study suggests the need for future research on certain aspects of junior high school students' reading strategies both in and out of school. To take into consideration other factors that may influence these reading strategies, investigations need also to consider students' attitudes toward reading or a specific discipline, the selection of reading materials, the subjects' purposes for reading, and the readers' personal models of the reading process. The present investigation also indicates some procedural concerns for studying reading strategies in a social context.
The present study demonstrates that these students employ the same reading strategies. They vary in their ability to use these strategies flexibly to gain meaning with different curricular materials.

Linguistic and discourse analysis need to be employed on texts which students use to gain greater insights about the features of the texts and the students' interaction with them. The data here suggest that for these students, the literary text and the self-selected materials are easier to read than social studies and science material. There is, however, variation among the students as to the difficulty of the social studies and science materials. The texts differ and the students vary in their knowledge, ability, attitudes, and interests.

Examining only one variable such as selection of materials, attitudes, personal models of the reading process, or purposes for reading does not seem to be profitable to predict ease or difficulty of reading. It may be through the interaction of all these variables that ease or difficulty of reading material may be determined. Studies could explore if one variable has higher priority than another in a specific reading situation. More careful examination of the interaction among these factors may help resolve some of the questions of readability. The students' reading strategies as reflected by miscue analysis scores do not relate to difference in attitudes (Estes Attitude Scales), reading in different settings (Burke Reading Interview), or reading for different purposes. These reading strategies do not relate to the test scores or the teachers' evaluations of the students. This does not mean that these are unimportant, but rather suggests the complexity of the process. Probably all of these factors
are interrelated. All of these variables need to be investigated in greater depth to determine which factors are more important and in what situations.

Future researchers need to conduct longitudinal studies on a small number of students. Using a team approach researchers would have the opportunity to employ different research designs to examine and analyze the development of individual students' reading strategies. The influence of reading instruction, attitudes, interests, purposes for reading, and the selection of materials can also be examined in relationship to the development and employment of reading strategies. The research population can be broadened in these longitudinal studies to include subjects of different ages, educational experiences, and multicultural backgrounds. The present study indicates the need for a clearer understanding of the reading demands students encounter both inside and outside of school. This can be accomplished by: (1) conducting this kind of study on a group of students reading in other subject areas such as mathematics, health, or family studies; (2) doing similar research where students read several kinds of materials in one subject area, such as primary sources, maps, charts, diaries, and newspaper reports in social studies; and (3) examining the reading tasks students encounter and the materials they select to read in our literate environment.

Finally, the present study suggests a useful set of procedures for conducting future research. Miscue analysis, the retrospective miscue procedures, and ethnographic techniques could be used to gain
greater insight about variables that affect reading strategies and the interaction of these factors.

The Classroom

The findings of the present study have implications for the classroom. In junior high school classrooms students are expected to read a variety of materials to acquire and expand their knowledge. However, students vary in their ability to read and comprehend different curricular materials.

In the present study several students have difficulty understanding new information presented in the selected passages. Although they read such words as "charisma" or "photosynthesis," these readers are unable to relate these concepts to prior experience and obtain meaning from the passages. Classroom methods of instruction need to provide opportunities for the students to integrate new information and develop appropriate reading strategies.

In content area classrooms students must have some background knowledge of the subject matter prior to reading about it. Finding out what knowledge students have prior to reading may suggest to teachers what background information is required. Teaching strategies such as problem solving, simulations, and personalized reading programs encourage students to become actively involved in their learning. Multimedia experiences provide the students with concrete experiences with new ideas before reading. These teaching strategies require a variety of reading materials and provide an opportunity for self-selection to help students focus on meaning, regardless of the subject area.
Students develop the necessary vocabulary as they investigate, discuss, and read about new concepts. Teachers' discussion and questioning techniques should help students focus on reading strategies such as predicting or self-correcting.

Retrospective techniques could also be employed to help students become aware of their reading strategies and how to use them flexibly with different texts and to discover which concepts students are unfamiliar with or insecure about.

Students in every grade need opportunities to read many different kinds of narrative and expository texts. These materials should include magazines, articles, or newspaper accounts that junior high school students read in a non-school setting. Students could be encouraged to bring to the classroom articles or books they have at home which relate to the subject matter. Reading in school would then approach reading in other environments.

Teacher Education, Staff Development

The findings of the present study have implications for teacher education staff development and inservice. Teacher training and inservice programs should provide college students and teachers in all subject areas with knowledge about the reading process, and methods of applying psycholinguistic insights into the classroom.

One effective teaching technique involves the specific examination of one's own reading process. Teachers could use the Reading Miscue Inventory and introspective-retrospective procedures to gain insights into the reading process and their own personal use of reading
strategies. Teacher training and staff inservice programs should include opportunities to examine junior high school students' reading, attitudes, personal models of the reading process, and self-concepts as readers.

Once subject area teachers have a knowledge of the reading process, they also need to become aware of the kinds of reading tasks and specific reading demands in their subject areas. Science and social studies teachers explain to students many new concepts. These teachers should also help students learn to use their reading strategies flexibly to gain meaning from specific subject area material. In this study, for example, the students read a chapter from a science textbook. Science materials are often objectively written, in the passive voice, with a heavy conceptual load. None of the students read the series of charts or diagrams that are an important part of the science passage. Either the students do not know how to read these features of the texts, or they do not consider it necessary to read them in order to understand the passage. These readers require a science teacher's assistance in learning the art of synthesizing charts or diagrams and the text. Knowledge of the specific reading demands in a content area also assists teachers in the selection of a variety of materials which efficient, average, and developing readers can read and use to learn about new concepts.

A second consideration involves certain instructional procedures and reading. In this study all of the students indicate vague or general purposes for reading the social studies and science chapters. Assignments that have the students read several pages or
chapters for their next class usually result in purposeless reading. Subject area teachers need to prepare students for reading assignments. The purpose for reading must be clear. Teacher-student discussions before reading can help facilitate the integration of new information with background knowledge. Teacher suggestions such as, "Compare the causes of pollution in the first three paragraphs and possible solutions to these problems in the last two paragraphs" highlight some feature of the structure of the reading assignment in advance. Content area teachers can help students achieve their purposes for reading a passage by highlighting critical features in the text. An explanation of the author's use of heading and subheading, charts, or diagrams would help the students with the reading.

Finally, teachers in all subject areas need to examine current methods of evaluating reading. Reading test scores and teacher evaluation may pick out the best readers, but they conceal the complexity of the others. The average readers seem to be doing many things like the efficient readers. Why is this not reflected in some way? What makes the best readers do better on tests, but not necessarily read better with a variety of materials? Developing readers are easily identified by standardized tests. However, there seems to be a self-fulfilling process going on. These readers are doing many things well as they read, yet neither school nor learner recognize the strengths these readers have. Success in reading different materials develops in students a better view of themselves as readers.
Recommendations

The findings of this study suggest the need for each junior high school to develop a school language policy. Such a policy involves "broadening teachers' notions and awareness of language, helping students learn to use language, and helping them use language to learn" (Fillion, 1979, p. 38). A school language policy affirms the key role of language in school learning (Britton, 1970).

In developing a language policy for a junior high school, teachers in each subject area would discuss how they might best help the students. A school language policy involves the subject area teachers so they can more thoroughly understand their role in the reading process and in building conceptual knowledge prior to reading and throughout reading. Such a policy requires teachers to examine the amount and kinds of reading in each subject area.

Language policies encourage teachers to examine the uses and language demands in each subject area and each classroom. Content area teachers with a knowledge of the reading process, and the specific reading demands in their subject area can assist students in learning to adjust their reading strategies for different curricular materials and for different purposes. It can help teachers make their purposes more explicit and in turn teachers can help students identify their own purposes. Students need the opportunity to use reading not just to finish an assignment but to gain knowledge, understanding, and pleasure. Finally, students require learning experiences that permit them to select and make an effective use of a wide variety of reading materials.
This study examines the reading strategies of junior high school students. With a sound rationale based on a knowledge of the reading process, and understanding of the influences of attitudes, personal models of reading, and purposes for reading, teachers have the foundation for helping students develop and successfully use their reading strategies in school and beyond.
APPENDIX A

THE BURKE READING INTERVIEW AND THE SUBJECTS'
TRANSCRIPTS OF THE INTERVIEW

Burke Reading Interview

1. When you are reading and you come to something you don't know, what do you do?

1a. What would happen if you weren't in school and you came to something you don't know?

2. Do you think your teacher is a good reader?

3. Who is a good reader you know?

4. What makes your teacher a good reader?

5. Why is _____ a good reader?

6. When your teacher comes to something he doesn't know, what do you think he does about it?

6a. What if he [the teacher] wasn't in school, what would he do?

7. What would _____ do when he came to something he doesn't know, what do you think he does about it?

8. If you know that someone is having trouble reading how would you help them?

9. What would your teacher do to help that person?

9a. If you weren't in school, how would you help that person?

10. How did you learn to read?

11. What would you like to do better as a reader?

12. Do you think you are a good reader?
13. What kinds of things do you read outside of school?

14. How would you compare reading in school and reading outside of school?

15. How would you compare reading materials you select to read and those the teacher gives you to read?

Subjects' Interview Transcripts
Burke Reading Interview

KIM

1. **Researcher:** When you are reading and you come to something you don't know, what do you do?

   **Kim:** . . . I read it and I try. . . . I try to think . . . you know. . . . I try and imagine it with something else, like to relate it to something else . . . and if I don't understand it usually I'll just keep reading . . . I don't make a big deal about it.

   **Researcher:** It helps you to try and keep reading?

   **Kim:** . . . Ya . . . usually I understand if I go on further along . . . you know the experience.

1a. **Researcher:** What would happen if you were outside of school and you came to something you didn't know? What might you do?

   **Kim:** Outside of school . . . I don't know . . . probably keep reading . . . .

2. **Researcher:** Do you think Mr. Smith is a good reader?

   **Kim:** Yes.

3. **Researcher:** Who is a good reader you know?

   **Kim:** My mother.

4. **Researcher:** What makes Mr. Smith a good reader?

   **Kim:** . . . I think the way he teaches the class and he reads a lot of literature in his class . . . he reads a lot.
5. **Researcher:** O.K. Why is your mother a good reader?

**Kim:** Because she reads a lot of books and, a, I think she really enjoys reading books.

6. **Researcher:** When Mr. Smith comes to something he doesn't know, what do you think he does about it?

**Kim:** I think he would look it up in the dictionary.

6a. **Researcher:** What if he wasn't in school and there wasn't a dictionary there? What would he do?

**Kim:** Try to understand it . . . and if he couldn't understand it keep reading.

7. **Researcher:** What would your mother do when she comes to something she doesn't know, what do you think she does about it?

**Kim:** . . . um . . . just probably keep reading. . .

8. **Researcher:** If you know that someone was having difficulty reading, how would you help them?

**Kim:** um . . . I think if they have difficulty reading they need like English . . . because I think it would be harder for them to read if they didn't know like words . . . you know they didn't know how to pronounce words . . . and stuff like that . . . so I think it would be good like if you gave them English and taught them words and stuff like that.

9. **Researcher:** What would your teacher do to help that person?

**Kim:** um . . . maybe give them simpler books to read to start out with and then increase you know the difficulty as they go on.

9a. **Researcher:** If you weren't in school how would you help that person?

**Kim:** . . . um . . . I'd read it to them . . . and have them read along with me . . . and have them listen to the words and learn how to pronounce them . . .

10. **Researcher:** How did you learn to read?

**Kim:** . . . Oh um . . . I guess in school I guess . . . I can't really remember . . . um . . . I think in school . . . I can't remember. . .
Researcher: What did they do to help you learn to read?

Kim: um ... like read short books so we could you know start learning words a little at a time ... have lots of pictures and things like that ... like hold up cards with like words on them and have a picture of whatever it is.

11. Researcher: What would you like to do better as a reader?

Kim: Maybe read um ... more of a variety of books than what I do read I guess ... I don't know ...

12. Researcher: Do you think you are a good reader?

Kim: Yes.

Researcher: Why are you a good reader?

Kim: Because I read a lot of books. I enjoy reading books ... it's easy for me to read.

13. Researcher: What kinds of things do you read outside of school?

Kim: I read mostly fiction and books about animals ...

Researcher: What other things?

Kim: That I read? ... um ... I don't know ... things around the house like labels ... I read a lot of labels ... notes ... and a lot of stuff like that ... that's about it.

Researcher: Anything else?

Kim: No, that's all I can think of ... I guess.

14. Researcher: How would you compare reading in school and outside of school?

Kim: I think when you read in school you ... I think it's harder to read in school because you're not as relaxed as you would be if you were reading at home ... you know.

Researcher: Why wouldn't you be as relaxed?

Kim: Because I think at home like if you ... sometimes like teachers say O.K. you've got fifteen minutes to read ... and maybe you don't feel like reading then
. . . you know and if you stop they bother you and ask why you're not reading . . . and at home you can put your book down any time you want and get something to drink or . . . you know . . . or do anything you want to.

15. Researcher: How would you compare reading materials you select and those the teacher gives you to read?

Kim: Yes definitely there is a difference . . . I think when they give you something to read it's harder to read books that way because you're limited to what the teacher thinks you should read. I think it's easier to read books when you just go to the library and select them at your own choice.

ROBERT

1. Researcher: When you are reading and you come to something you don't know, what do you do?

Robert: Just try and figure it out and see what it says.

Researcher: How do you try and figure it out?

Robert: Well, the letters . . . try and figure out what they mean or whatever . . . what it means . . . sometimes I'll look it up in the dictionary . . . or something.

Researcher: How does that help you?

Robert: Well . . . it makes me understand the book more and um . . . maybe I'll enjoy the book more . . . and it goes faster.

1a. Researcher: What would happen if you weren't in school and you came to something you didn't know, what would you do?

Robert: Try and figure it out . . . the same way.

2. Researcher: Do you think Mr. Smith is a good reader?

Robert: Ya

3. Researcher: Who is a good reader you know?

Robert: . . . my brother Mark.
4. **Researcher:** What makes Mr. Smith a good reader?

**Robert:** Well, he . . . um . . . acts out . . . acts out the way it is and stuff like that. . . .

**Researcher:** Anything else?

**Robert:** . . . no. . . .

5. **Researcher:** Why is Mark a good reader?

**Robert:** Well, he can . . . say if I don't understand it he'll explain it to me. . . .

6. **Researcher:** When Mr. Smith comes to something he doesn't know what do you think he does about it?

**Robert:** Well . . . before he reads it to us I think he reads it before. . . .

6a. **Researcher:** What if he wasn't in school, what would he do?

**Robert:** Well he'd try say that he did maybe know it . . . try to understand it . . . or maybe ask us if we knew it.

7. **Researcher:** What would Mark do when he came to something he didn't know, what do you think he does about it?

**Robert:** Probably do what I do . . . try and figure out what it means . . . word it out with the words . . . see what the sentence and all means.

**Researcher:** What does word it out mean?

**Robert:** Figure out the letters and vocabulary.

8. **Researcher:** If you know that someone is having difficulty reading, how would you help them?

**Robert:** Well, I'd sit down with them and help them . . . if they didn't know words, tell them what it is . . . I guess. . . .

9. **Researcher:** What would your teacher do to help that person?

**Robert:** Well . . . he would sit down and tell them what it is . . . and maybe have them stay after class or whatever. . . .

**Researcher:** What do you think they would do after class?
Robert: Maybe have a special book or whatever . . . so he read could read it.

9a. Researcher: If you weren't in school how would you help that person?

Robert: . . . Well the same thing . . . he'd read a book. . . .

10. Researcher: How did you learn to read?

Robert: Well, when I was in the second grade the teacher helped me read along . . . the teacher helped me figure out the words . . . what their sounds were.

Researcher: What did the teacher do to help you?

Robert: She helps me sound it out . . . tell me what the letters sounded like and . . . what they would sound like mixed together and all.

11. Researcher: What would you like to do better as a reader?

Robert: Um . . . read slowly and help little kids read . . . read to them so they'd understand . . . maybe I could understand it more . . . learn more words.

12. Researcher: Do you think you are a good reader?

Robert: I'm O.K.

Researcher: Why are you O.K.?

Robert: Not the greatest reader I don't read that fast . . . I read O.K.

13. Researcher: What kinds of things do you read outside of school?

Robert: Like mysteries and science fiction . . . animal stories and stuff like that . . . magazines the paper.

14. Researcher: How would you compare reading in school and outside of school?

Robert: Well, when you in school you might have to read it . . . when you're at home you can read it when you want . . . so if you want to do something else, you don't have to read it . . . in school when the teacher says you have to read you have to read.

15. Researcher: How would you compare reading materials you select and those the teacher gives you to read?
Robert: Well, when they select you might not want to read it or something like that. . . . some boring book about mountains . . . or something like that . . . sometimes I choose by the picture on the cover or the name or something.

JANE

1. Researcher: When you are reading and you come to something you don't know what do you do?

Jane: I kind of read over the word a couple of times and if I can't figure out then I just read on . . . and maybe later on I look it up in the dictionary, if I don't know what it is.

Researcher: How does that help you?

Jane: It helps me well . . . when I'm reading I like to know what I'm reading . . . I might also ask my parents or teacher.

1a. Researcher: What would happen if you weren't in school and you came to something you didn't know, what would you do?

Jane: Ask somebody at home . . . and if nobody was at home . . . I'd let it go or I'd look it up in the dictionary or something . . . or kind of read over the sentence a couple of times and maybe by the sentence I could find out what it is . . . what they are trying to say.

2. Researcher: Do you think Mr. Smith is a good reader?

Jane: Very good.

3. Researcher: Who is a good reader you know?

Jane: um . . . my brother . . . he's read a lot.

4. Researcher: What makes Mr. Smith a good reader?

Jane: um . . . he knows a lot of words and he reads a lot in class. . . .

5. Researcher: Why is your brother a good reader?

Jane: He's older and he reads a lot . . . he read before I did. . . .
6. **Researcher:** When Mr. Smith comes to something he doesn't know, what do you think he does about it?

**Jane:** He um . . . just read on and then he . . . later on he'd try and find out what the word was and if he was really puzzled he's probably look it up in the dictionary.

6a. **Researcher:** What if he wasn't in school and there wasn't a dictionary there? What would he do?

**Jane:** . . . um I don't know . . . he'd probably read the sentence or look it up later.

7. **Researcher:** What would your brother do when he comes to something he doesn't know, what do you think he does about it?

**Jane:** Ask my mother . . . she knows a lot of words . . . she's a legal secretary.

**Researcher:** What if your brother was alone?

**Jane:** I don't know . . . like he knows lots of words . . . and he's really smart . . . I don't know.

8. **Researcher:** If you know that someone is having trouble reading how would you help them?

**Jane:** um . . . really not give them that much advice I might be wrong too . . . try to help them understand what they were reading.

**Researcher:** How would you help them understand?

**Jane:** Like read it to them and tell them a little bit what it's about . . . and tell them to read it and see if they get what it's about.

9. **Researcher:** What would your teacher do to help that person?

**Jane:** He's probably ask them to read the book . . . or the page or something and then he'd tell them they should have more feeling or something in what they were reading.

9a. **Researcher:** If you weren't in school how would you help that person?

**Jane:** . . . well . . . he'd probably do the same thing he'd just tell them to read or something. . . .
10. **Researcher:** How did you learn to read?

   **Jane:** My parents gave me a little book and they sit there and then they would read one word and say the word over and over and then I'd say it.

11. **Researcher:** What would you like to do better as a reader?

   **Jane:** Like to understand what I read better... when I read I don't understand sometimes I read... I have to read it over and that wastes time in class when I'm supposed to do other things.

12. **Researcher:** Do you think you are a good reader?

   **Jane:** ... well... so-so I don't know...

   **Researcher:** Why just so-so?

   **Jane:** Well, I don't read fast I just like to take my time... so if I read fast I don't know what I've read... I'd have to go back over it.

13. **Researcher:** What kinds of things do you read outside of school?

   **Jane:** ... I like to read horse books cause I like horses... I like to read adventure books... books that you really can't put down.

14. **Researcher:** How would you compare reading in school and reading outside of school?

   **Jane:** Well, at school you read like... you have to explain to the teacher or something like that or you have to write something out maybe and at home you can just read and you don't wouldn't have to have a discussion or anything and I think at school it is better to have a discussion what you have read to understand it better.

15. **Researcher:** How would you compare reading materials you select to read and those the teacher gives you to read?

   **Jane:** Well, Mr. Smith he picks good books for us to read but... sometimes are really boring... they just pick things they think we like... I think we should get a chance to pick something we like.
1. **Researcher:** When you are reading and you come to something you don't know, what do you do?  
**Tim:** I usually read it over again and try . . . see if I can make the sentence help me . . . like know what the word means or whatever. . . .  
**Researcher:** How does that help?  
**Tim:** Well, like if I know what . . . I can usually tell what the word should be if . . . like in the sentence it has . . . it should be there . . . most of the time.  
**Researcher:** If that doesn't work what else might you do?  
**Tim:** Might go ask the teacher.

1a. **Researcher:** What would happen if you weren't in school and you came to something you didn't know, what would you do?  
**Tim:** . . . I'd probably just skip over it . . . if I couldn't figure out what it was . . . or I might ask my mom. . . .

2. **Researcher:** Do you think Mr. Smith is a good reader?  
**Tim:** Ya.

3. **Researcher:** Who is a good reader that you know?  
**Tim:** Well, my mom. . . .

4. **Researcher:** What makes Mr. Smith a good reader?  
**Tim:** He expresses himself well . . . and he also um . . . he reads and helps you understand.

5. **Researcher:** Why is your mother a good reader?  
**Tim:** Well, she ugh . . . the same thing as Mr. Smith she ugh . . . helps me understand a lot.  
**Researcher:** How does he help you understand a lot?  
**Tim:** He explains things that . . . like that I might not know . . . and he also helps me with words I don't know.
6. **Researcher:** When Mr. Smith comes to something he doesn't know, what do you think he does about it?

**Tim:** Probably looks it up in the dictionary.

6a. **Researcher:** What if he wasn't in school what do you think he would do?

**Tim:** Probably try and figure it out by what ... what it mean in the sentence ... what it should mean in the sentence.

7. **Researcher:** What would your mother do when she comes to something she doesn't know, what do you think she does about it?

**Tim:** She probably looks it up in the dictionary ... or tries to figure out what it is by read it in a sentence.

**Researcher:** What would she do if she was in a park and didn't have a dictionary?

**Tim:** Well, she'd probably maybe skip over it or try figure it out what it was by ... um ... by reading over the sentence. That usually helps me a lot.

8. **Researcher:** If you know someone is having difficulty reading, how would you help them?

**Tim:** Let them read a lot so that they can get good practice at it ... and become better readers.

9. **Researcher:** What would your teacher do to help that person?

**Tim:** He'd probably spend time with them and teach them.

11a. **Researcher:** What would he do in this time?

**Tim:** um ... let me see ... He'd probably um ... well ... let them read ... um let's see ... get him interested in reading.

9a. **Researcher:** If you weren't in school, how would you help that person?

**Tim:** Get him interesting books he would like ... like if he likes sports then get him sports some books.

10. **Researcher:** How did you learn to read?
Tim: My mom helped me and my first grade teacher ... we read orally in a group. My mother started reading with me and then just she told me to read some sentences until pretty soon I was reading to her ... and then I just practiced.

11. Researcher: What would you like to do better as a reader?
Tim: Read a little faster ... and probably read a little better orally. Usually when I read orally I stutter. ... .

12. Researcher: Do you think you are a good reader?
Tim: Ya.
Researcher: Why?
Tim: Cause I like reading and I read a lot and usually I get a lot out of reading.

13. Researcher: What kinds of things do you like to read outside of school?
Tim: Novel ... and I read a lot of novels in school too ... magazines and newspapers ... and um ... let's see well I read um papers I have to read.

14. Researcher: How would you compare reading in school and outside of school?
Tim: In school a lot of times it makes up for your grade and out of school you can just ... it doesn't matter ... you can just read for pleasure.
Researcher: That makes a difference to you?
Tim: Ya.
Researcher: How does it make a difference?
Tim: Make me think now about the book and not how to think about the questions I'll be asked after I read it.

15. Researcher: How would you compare reading materials you select and those the teacher gives you to read?
Tim: Well some of the things the teacher gives me I don't like reading cause it might be boring or just not interesting ... most of the things I read at my house I like reading because I check them out myself.
LYNN

1. **Researcher:** When you are reading and you come to something you don't know, what do you do?

**Lynn:** Ask my teacher or I just try and go back and read it.

**Researcher:** How does that help?

**Lynn:** Well, if I don't understand a word or what it means, my teacher tells me and I can go back and understand.

1a. **Researcher:** What would happen if you were outside of school and you come to something you didn't know, what might you do?

**Lynn:** I'd just skip it.

**Researcher:** Would you ever do that in school?

**Lynn:** No.

2. **Researcher:** Do you think Mr. Smith is a good reader?

**Lynn:** Ya.

3. **Researcher:** Who is a good reader you know?

**Lynn:** In school?

**Researcher:** Anybody.

**Lynn:** My dad.

4. **Researcher:** What makes Mr. Smith a good reader?

**Lynn:** Um... because when he reads um... he goes slow and you can understand it and he acts like the characters in the book.

5. **Researcher:** Why is your dad a good reader?

**Lynn:** He does the same things as Mr. Smith... he reads slow and understands it.

6. **Researcher:** When Mr. Smith comes to something he doesn't know, what do you think he does about it?

**Lynn:** I don't really know... he probably knows everything... I guess... cause the books he reads to
us are pretty easy so he should know what they're about.

6a. **Researcher:** What if he wasn't reading a book in school, what would he do?

**Lynn:** He probably skip it.

7. **Researcher:** What would your dad do when he came to something he doesn't know, what do you think he does about it?

**Lynn:** . . . He would skip it . . . or maybe ask mom. . . .

8. **Researcher:** If you know that someone was having difficulty reading, how would you help them?

**Lynn:** um . . . well there's a special reading class at the school and you could maybe . . . I don't know really um . . . I don't know . . . just try to help them read and stuff. . . .

9. **Researcher:** What would your teacher do to help that person?

**Lynn:** . . . um give him special help after school.

**Researcher:** What would this special help deal with?

**Lynn:** um . . . start him like on easier books . . . re-do it with him and help him understand it . . . ask him questions about it.

9a. **Researcher:** If you weren't in school how would you help that person?

**Lynn:** Their parent could help him . . . help him read book with them and help him understand it.

10. **Researcher:** How did you learn to read?

**Lynn:** School. . . .

**Researcher:** What did they do to help you learn to read?

**Lynn:** um . . . like we use to sit in a group with a bunch of people and take we use to take turns reading and our teacher would help us with the words and stuff . . . and she'd write them on the board and help us out with stuff.

11. **Researcher:** What would you like to do better as a reader?
Lynn: Well be able to pronounce words more better ... that all ... just pronounce the words better and understand a little more better.

12. Researcher: Do you think you are a good reader?
Lynn: ... I'm O.K. (laugh)
Researcher: Why are you O.K. as a reader?
Lynn: Can't read you know ... I have a hard time reading adult books but ... you know ... but books for someone my age I can read pretty well.

13. Researcher: What kinds of things do you read outside of school?
Lynn: ... Judy Blume books ... that's about all I ever read ... sometimes I read scary books you know like thrillers ... some magazines.

14. Researcher: How would you compare reading in school and outside of school?
Lynn: It's different because like you have your own choice of reading your own book and most of the time you read silent but like at school you have to read out loud in front of everybody else ... I don't like doing that.

15. Researcher: How would you compare reading the materials you select and those the teacher gives you to read?
Lynn: Well like um ... the books I select to read I really like and I pick them out myself ... but the ones at school um ... you just have to read the ones the teacher says um ... they're different because you can relate to most of the ones you pick out ... but like the ones teachers have you read are that good they're kind of boring ...

STEVE

1. Researcher: When you are reading and you come to something you don't know, what do you do?
Steve: Go ask the teacher ...
Researcher: What else might you do?
Steve: Go ask a friend ...
Researcher: What would you do if you were reading by yourself?

Steve: Look it up in the dictionary ... it gives you the definition.

1a. Researcher: What would happen if you were outside of school and you came to something you didn't know, what might you do?

Steve: I'd probably read along and see if I could understand it as I was reading along ... or I might skip it.

2. Researcher: Do you think Mr. Smith is a good reader?

Steve: Yes.

3. Researcher: Who is a good reader you know?

Steve: Tyler.

4. Researcher: What makes Mr. Smith a good reader?

Steve: He reads a lot ... he's a teacher ... reads a lot in school.

5. Researcher: Why is Tyler a good reader?

Steve: He likes to read books. ...

6. Researcher: When Mr. Smith comes to something he doesn't know what do you think he does about it?

Steve: ... Looks it up in the dictionary ... asks another teacher ... .

6a. Researcher: What if he wasn't in school and there wasn't a dictionary, what would he do?

Steve: ... might skip it and later on he'd look it up in the dictionary.

7. Researcher: What does Tyler do when he comes to something he doesn't know, what do you think he does about it?

Steve: ... probably ask somebody or skip it.

8. Researcher: If you know that someone was having difficulty reading, how would you help them?
Steve: ... by ... telling them some good books to read
        ... let them read to me ... talk to them. ...

9. Researcher: What would your teacher do to help that person?

Steve: ... Assign you books ... have you read orally and
         see why you're not such a good reader.

9a. Researcher: If you weren't in school how would you help that
            person?

Steve: ... some things ... have them read to you ...
        give them easy books.

10. Researcher: How did you learn to read?

Steve: ... from listening to everybody else read ...
       copying after I learned how to spell ... probably
       in the first grade of school ... read books and do
       writing assignments.

Researcher: How did the first grade teacher help you?

Steve: She told me nice words and helped me learn new words.

11. Researcher: What would you like to do better as a reader?

Steve: ... ugh ... I want to read harder books. ... I
       don't really like to read lots of books but pretty
       soon I will.

12. Researcher: Do you think you are a good reader?

Steve: Average ... not really good ... cause I can read
       ... it's hard for me to read.

13. Researcher: What kinds of things do you read outside of school?

Steve: ... mystery books ... sports books ... magazines
       ... newspapers.

14. Researcher: How would you compare reading in school and outside
        of school?

Steve: ... it depends if you got something assigned ... out of school you don't have to read the whole thing
        you can skip it ... in school if you have to make a
        report on it or tell about it, you have to read it
        all.
15. **Researcher:** How would you compare reading materials you select and those the teachers give you to read?

**Steve:** ... like some of them are boring ... I don't like to read novels ... I like to read other kinds of books ... like I would probably choose a newspaper or a magazine.
APPENDIX B

THE SELECTED PASSAGES OF EACH SUBJECT

Self-Selected Passages—Kim

"The Fun's No Fake" (Miller 1980). This interview with John Ritter took place on a movie location for his new film Hero at Large. John reflected on his early life in Southern California with his mother, his brother Tom, and his actor-singer father Tex Ritter. The article traced John's career from high school to his present movie. The selection concluded with the film's director, who described John as humorous, energetic, and a fine actor.

Self-Selected Passages—Robert

"All the Champs Were Titanic Failures" (Keith 1979). This article outlined in detail the decline of four baseball teams: the New York Yankees, Kansas City Royals, Los Angeles Dodgers, and Philadelphia Phillies. Specific injuries, hitting, and pitching problems were discussed for each team. Players commented on the reasons for the teams' failures to be contenders. The players, the article concluded, were as surprised with their poor performances as were the fans in each of these cities.

Self-Selected Passages—Jane

"Trek of the Great White Bear" (Russell 1980). This article described the spring trek of a polar bear from the shores of Greenland
to the mating area on Baffin Island. Weak from a winter of hibernation, the polar bear struggles to cross the ice and kill a seal for food. Encounters with a walrus and two killer whales are dangers the polar bear faces on this journey. The article concludes with a description of the bear's summer activities.

Self-Selected Passages--Tim

"Strangers in the Limelight" (Wulf 1980). This satirical article analyzes the rise of two perennial last place teams, the Toronto Blue Jays and the Oakland A's. Instead of contesting for the worst record in baseball, these teams are competing for first place in their divisions. New players, managers, and crowd support are discussed as reasons for this new success. The author concludes by wondering how long these two teams will play out of character.

Self-Selected Passages--Lynn

The Fog, Chapter 12, pp. 146-151 (Atchison 1980). In this chapter Nick and Elizabeth are desperately trying to rescue Andy from a house that is being surrounded by the fog. Nick has to smash a window and wrestle Andy away from the fog. They barely escape from the fog when their car becomes stuck in the sandy beach. The selection ends with the characters seeking refuge in a church.

Self-Selected Passages--Steve

"Kids Learn Faster" (Callwey and Kriegel 1979). This passage describes the advantages of learning a new sport at a young age. A ski vacation serves to illustrate this notion. Although Dick has taken ski
lessons, his son Ben is skiing effortlessly and enjoying the experience. The authors argue that the father tries to remember his instructions while his son just skis. The authors conclude that children are natural learners and they do not have any preconceived ideas about the right way to learn a new sport.
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