AN ANALYSIS OF THE UTILIZATION OF THE CUEING SYSTEMS BY PROFICIENT AND LESS PROFICIENT FOURTH-GRADE READERS

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by

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ABSTRACT

The purpose of this study was to examine the similarities and differences of proficient and less proficient fourth-grade readers in their utilization of the grapho-phonic, syntactic, and semantic cueing systems of language.

Ten students from two grade four classes whose comprehension scores on the Gates-MacGinitie Reading Tests (1965) fell between 4.2 and 4.7 and between 4.9 and 5.4 were selected for the study. The less proficient group was comprised of the five students with scores between 4.2 and 4.7, and the proficient group was the five students between 4.9 and 5.4.

The students read orally the story "Space Pet," selected from the Reading Miscue Inventory (Y. Goodman & C. Burke, 1972). Each child was asked to retell as much of the story as possible. The reading and retelling of the story were audiotaped. The writer listened to the tape for each child in order to accurately record all miscues, and to write down the story verbatim for each child.

The miscues for each group were examined in terms of the amount of graphophonic similarity, the percent of syntactically and semantically acceptable miscues, the percent of miscues corrected, and the extent to which each group's miscues distorted meaning. Group means were tabulated and

presented. The findings indicated that both groups of readers utilized the cueing systems, but they did not use them equally. Both the proficient and less proficient groups relied more heavily on the graphophonic system than on either the syntactic or the semantic. The less proficient readers, however, used the graphophonic system more extensively than did the proficient readers. The proficient readers produced more syntactically and semantically acceptable miscues than did the less proficient readers. The proficient readers corrected a higher percentage of miscues and produced fewer miscues resulting in meaning change than did the less proficient readers.

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CHAPTER I

THE PROBLEM

Background of the Study

According to recent models of reading (K. Goodman, 1967; Hochberg & Brooks, 1970; Venesky & Calfee, 1970), proficient reading does not result from a precise perception of letters and words. Rather, the proficient reader is an active participant in the reading process in which he/she uses his/her cognitive and linguistic knowledge, utilizes the sources of information available to him/her, and thus, using the minimal cues necessary, predicts, confirms, and regresses if necessary in order to bring meaning to the text.

In the past, reading was viewed as a precise process which involved being able to identify letters, words, and larger units of language (Beebe, 1976b). The emphasis was on phonics and word recognition skills rather than on reading for meaning on various comprehension levels. Spache (1964), in offering definitions of reading, presented as one definition that reading "is a perceptual act. Thus in its simplest form, reading may be considered a series of word perceptions" (p. 12). In cross-comparing the views of linguists who asserted that they were applying linguistics to reading, Bartowiak (1967) suggested that Bloomfield reduced reading

to simply sound/letter relationships and that for Fries "the most important step in learning to read involves a clear cut understanding of the relationship of spelling patterns to word patterns of the language" (p. 387). According to Jensen (1972), various "linguistic" approaches to reading emerged from the work of Bloomfield (1925), and later from Fries (1963). Although these "linguistic" approaches were based on scientific phonological principles, basically they were phonics programs. The proficient reader was viewed as one who produced with accuracy that which was in print.

During the 1960's, theories of reading began to be constructed on the basis of psycholinguistics, the study of the interrelationship of thought and language. A psycholinguistic view of reading is one that maintains that reading is more than graphophonic processing. Rather, it concerns itself with the function of all the language systems (i.e., phonology, syntax, and semantics). Thus in reading instruction we have seen the emphasis on meaning. Venesky and Calfee (1970), in their model of the reading process, hypothesized that the reader searches for the largest unit that he can identify and integrate. He makes predictions based on his experiences, on his knowledge of language, and on the context of the material he is reading. When these sources of information are insufficient, he then utilizes his information from the graphophonemic system of language.

Hochberg and Brooks (1970) contended that "the skilled reader 'samples' the text in order to develop hypotheses about what the next string of symbols consist of and to test those expectations at appropriate places further along in the text" (p. 305). Attempting to read a few letters at a time, or word by word reading, frequently results in loss of meaning and interferes with the reader's comprehension. The aim in reading should be to take in as much text as possible with each fixation and still have meaning maintained (Smith, 1978).

One of the basic skills of reading identified by Smith (1978) is the elimination of alternatives through the use of redundancy. Generally, text is highly redundant in many ways and therefore the reader does not have to see every letter or every word in order to know what the text is saying. Hochberg and Brooks (1970) stated that:

> In short the subject will - and should - tend to "guess" at what is vaguely seen in peripheral vision - and the more he knows about the redundancies of spelling, grammar, and idiom employed by the text, or the more the text approaches the patterns of speech that he is normally prepared to generate, the more he can correctly anticipate the message, the more likely that his guesses will be right, and the fewer the fixations that he actually needs to make. (p. 309)

The model of reading formulated by Ruddell (1970) specified three levels of linguistic structure: (1) the surface level, which includes morphemic and syntactic elements, (2) the interpretation level, which includes structural and semantic elements, and (3) the deep structure level, which includes integration and storage.

After five years of research and theoretical work on reading, K. Goodman in 1967 presented an extensively developed psycholinguistic model of the reading process. He posited that reading is a selective process. It involves partial use of available minimal language cues on the part of the reader. As the reader processes this information, predictions are made to be confirmed, rejected, or refined as reading continues (K. Goodman, 1967).

Introduction to the Problem

The reader is a user of language. According to K. Goodman (1969) reading is an information processing activity in which the reader attempts to reconstruct a message encoded in graphic display by the writer. "He concentrates his total prior experience and learning on the task, drawing on his experiences and the concepts he has attained as well as the language competence he has achieved" (p. 15). Reading is a receptive process of language. By the time children enter school they have acquired a competence in spoken language and they are able to construct and verify a set of rules that summarize the relationships and regularities underlying language (Smith, 1978). The chief contribution that one has to bring to the act of reading is one's knowledge of the language (Melvin, 1979).

Prior to 1968, researchers lacked a clearly defined framework to guide their efforts in oral reading error analysis, and their research was based on a set of assumptions. Some of these assumptions as put forth by Leu (1982)

are as follows:

1. Proficient reading equals exact reading.
2. Each error interferes equally with reading comprehension.
3. The number of oral reading errors that a person makes is inversely related to their reading comprehension. (p. 422)

During this period, oral reading errors were described in terms of the quantity of substitutions, omissions, insertions, repetitions, mispronunciations, and reversals, thus providing no insight into the cognitive and linguistic processes involved in the reading process. A considerable amount of research (Monroe, 1928; Ilg & Ames, 1950; McCullough, Strang, & Traxler, 1967) was conducted focusing on the errors an individual makes when he/she is reading orally. Weber (1968) contended that "the analysis of oral reading errors comprises a substantial portion of research in reading which has focused on one specific aspect of the reading process, rather than overall reading achievement" (p. 98). Basically, these researchers conceived reading errors as signs of imperfect learning, thus identifying a less proficient reader.

These emphases still exist in reading today but to a much lesser degree. More recent research suggests that there is little relationship between the number of word recognition errors and comprehension ability. It also suggests that proficient readers produce errors that they correct only if such errors interfere with meaning (C. Burke

& K. Goodman, 1970; Beebe, 1976; K. Goodman & Y. Goodman, 1977).

Some researchers (Clay, 1968; C. Burke, 1969; Weber, 1969; Biemiller, 1970; Y. Goodman, 1971; Menosky, 1971; K. Goodman & C. Burke, 1973) have been concerned with studying reading errors qualitatively rather than quantitatively. They believe reading to be a complex and integrated process rather than a simple, precise process. A view offered by K. Goodman (1970) is that "reading is 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" (p. 103).

Based on the premise that oral reading closely parallels silent reading, researchers have chosen to qualitatively analyze the oral reading errors of readers in order to gain insights into the reading process. Weber (1968) stated that "researchers have assumed, not always explicitly, that the process of oral reading approximates the process of silent reading so closely that the two can be considered one and the same" (p. 99). Assuming that the processes of the two modes (i.e., silent and oral) of reading are similar and that oral reading errors are representative of silent reading errors, Fairbanks (1937) considered the analysis of oral reading errors to be a suitable technique for studying the central processes in reading. In a study of college freshmen, reading words presented on a tachistoscope and reading a paragraph, Swanson (1937) found

that a significant relationship exists between the oral and silent reading processes.

The term "errors" has been used in previous reading error analysis research (Ilg & Ames, 1950; Schale, 1964; McCullough et al., 1967). However, C. Burke & K. Goodman (1970) preferred to use the term "miscues" because they had come to believe that the miscues "are produced in response to the same cues which produce expected responses and that the same mental processes are involved in generating both expected and unexpected responses" (p. 121). K. Goodman (1969) used the term miscue to avoid the negative connotation of "errors" and to avoid the implication that good reading does not include miscues.

According to K. Goodman (1969) individuals, when reading, have at their disposal three sources of information which they rely upon to bring meaning to the printed word. These sources of information are sometimes referred to as "cueing systems" and consist of (a) graphophonic information, which is the information from the graphic and phonological system of language, (b) syntactic or grammatical information, which is the information implicit in the grammatical structures of the language, and (c) semantic information, which is meaning, derived from the reader's experiences and conceptual background. Through a process of selecting as much information as he/she needs for each system, the reader "guesses" or predicts what is written. K. Goodman (1967) has outlined the steps through which a

reader proceeds in processing the graphophonic, syntactic, and semantic information. The steps which follow are not necessarily sequential and may occur simultaneously:

1. The reader scans along a line of print from left to right and down a page, line by line.

2. He fixes on a point to permit eye focus. Some print will be central and in focus, some will be peripheral; perhaps his perceptual field is a flattened circle.

3. Now the selection process begins. He picks up graphic cues, guided by constraints set up through prior choices, his language knowledge, his cognitive styles, and strategies he has learned.

4. He forms a perceptual image using these cues and his anticipated cues. The image then is partly what he sees and partly what he expected to see.

5. Now he searches his memory for related syntactic, semantic, and phonological cues. This may lead to selection of more graphic cues and to reforming the perceptual image.

6. At this point, he makes a guess or tentative choice consistent with graphic cues. Semantic analysis leads to partial decoding as far as possible. This meaning is stored in short term memory as he proceeds.

7. If no guess is possible, he checks the recalled perceptual input and tries again. If a guess is still not possible, he takes another look at the text to gather more graphic cues.

8. If he can make a decodable choice, he tests it for semantic and grammatical acceptability in the context developed by prior choices and decoding.

9. If the tentative choice is not acceptable semantically or syntactically then he regresses, scanning from left to right along the line and up the page to locate a point of semantic and syntactic inconsistency. When such a point is found, he starts over at that point. If no

inconsistency can be identified, he reads on seeking some cue which will make it possible to reconcile the anomalous situation.

10. If the choice is acceptable, decoding is extended, meaning is assimilated with prior meaning, and prior meaning is accommodated if necessary. Expectations are formed about input and meaning that lies ahead.

11. Then the cycle continues. (pp. 134-135)

Statement of the Problem

This study is concerned with a psycholinguistic analysis of the oral reading miscues of two groups of fourth-grade readers, who are representative of proficient and less proficient readers. Some readers produce miscues and comprehend fully what they read, while others produce an equal number of miscues but comprehend little. To explain this observation, it is necessary to determine how each group (i.e., the proficient and the less proficient readers) utilizes the three cueing systems (i.e., the graphophonic, the syntactic, and the semantic) while reading, and to examine the relationships between the cueing systems and the level of comprehension as evidenced by the retelling scores.

Rationale for the Study

Research indicates that by analyzing oral reading miscues researchers can get an insight into the reader's use of the three cueing systems of language and identify the strategies the reader uses (Clay, 1968; Biemiller, 1970, 1979; C. Burke & K. Goodman, 1970; Y. Goodman, 1974;

K. Goodman & Y. Goodman, 1978). K. Goodman (1982) pointed out that "we can infer from the behavior of readers, utilizing linguistic data about the use of language, what competence underlies the reading behavior and how the reading process works" (p. 22).

Miscue analysis involves the observation of a reader as he is interacting with language and thought in an attempt to construct meaning from a graphic display. The miscue, according to K. Goodman (1973), is "like a window on the reading process" (p. 5). Miscue analysis not only reveals the strengths and weaknesses of a reader, but the user of miscue analysis can determine the extent to which a reader is efficient and effective. According to Y. Goodman (1974), by examining the quality of a reader's miscues researchers are able to infer something about a reader's ability in handling print. Miscue analysis "helps to examine the reading process almost as a scientist might look through a microscope" (p. 66).

It is suggested by Hu-Pei Au (1977) that oral reading error analysis is a worthwhile technique in identifying areas of the curriculum that need strengthening. She considered this method an advantage over standardized tests in that the child is dealing with connected text and, rather than choosing from multiple choice answers, has to produce his/her own responses. In examining the reading miscues of fourth-grade children, Beebe (1976b) suggested that analyzing miscues qualitatively will help researchers understand why

some children gain more meaning from the printed text than others. Stanovich (1980) pointed out that studies of oral reading errors give the researcher insights into how the graphic and contextual information contributes to the reader's ability to recognize words. Robinson (cited by K. Goodman & C. Burke, 1973) suggested that "a wealth of information about processes could be secured from carefully planned . . . examination of children's reading behavior" (p. 7).

Studying readers' miscues reveals their strengths and weaknesses. C. Burke (1976) identified the types of information a miscue reveals. Such information might be the degree to which the reader's miscues disrupt comprehension, the degree to which the miscues are graphophonically, syntactically, and semantically similar to the original text, and the relationship between each miscue, the text, and other miscues produced.

Most of the research on miscue analysis has been carried out in the United States. The literature review suggests that analyzing oral reading through miscue analysis in Newfoundland is limited to only a few studies (Walker, 1975; Beebe, 1976a, 1976b; Hasinoff, 1981).

Significance of the Study

Studies of the oral responses of readers are needed to give researchers and educators an insight into how readers use the information they have available to them when

they are engaged in the reading act. Researchers are able to gain insight into the use and misuse of available cues and the processes used by readers as they read (K. Goodman & C. Burke, 1973). The miscues, which are produced from the same cues as expected responses (K. Goodman, 1967), can be used to compare the observed responses to the expected responses, thus revealing information about the psycholinguistic processes at work within the reader, a user of language.

In analyzing the oral reading responses of proficient and less proficient readers, we are able to identify the similarities and differences in the way they utilize the cueing systems of language. The extent to which they rely upon the graphophonic, syntactic, and semantic sources of information can be identified. As well, we can identify how well each reader uses the strategies of sampling, predicting, testing, and confirming or disconfirming. Smarr (1978) concluded that the reading process is common to all readers. There are, however, differences in how individuals process print, and thus there are various levels of proficiency among readers.

Following a 3-year study of the oral reading miscues of readers, ranging from low proficiency second graders to high proficiency tenth graders, K. Goodman and C. Burke (1973) concluded that low and high proficiency readers use the same process when reading. The low proficiency readers, however, are using it less well. Low proficiency readers

tend to use more information available from the language cueing systems than the high proficiency readers. The high proficiency readers are more efficient readers. There were no differences in the way in which the moderate to high proficiency readers handled syntactic structures. Differences in their ability to comprehend what they read appeared to be the only consistent difference between groups of varying levels of proficiency. K. Goodman and C. Burke suggested that the percent of semantically acceptable miscues a reader produces before correction is the best measure of reading proficiency.

In studying the subgroupings of more efficient and less efficient readers, Marsden (1979) found that the less efficient readers relied more heavily on graphic information while the more efficient readers concentrated on meaning. According to Weber (1969), Menosky (1971), K. Goodman and C. Burke (1973), and Shearer (1982), readers show a control of the syntactic structure of language. Analyzing the miscues of readers of different proficiency levels enables the researcher to identify the reading strategies in use by both groups. Strengths and weaknesses of the readers can be identified. Based upon the results of the analysis, lessons can be devised to use strengths to overcome weaknesses.

Limitations of the Study

1. The data obtained in the study were from 10 fourth-grade students of one school, and therefore the findings

cannot be generalized to a wider population.

2. The sample size was small. However, since the procedures described in the Reading Miscue Inventory (1972) were used, the writer was able to obtain an in depth analysis of the readers' miscues.
3. The subjects read only one passage, which they were asked to retell following the reading. Thus, the scores obtained for each child were based on just one reading.
4. The oral reading and retelling were tape recorded. This might have inhibited some children, both in the reading and in the later retelling of the story.
5. Some children might have been reluctant to retell all that they knew about the story. If so, the retelling score did not accurately measure their understanding of the story.
6. There was a 1-year range in reading ability between the least proficient and the most proficient readers. Therefore, the similarities and differences in the utilization of the cueing systems might have been greater if the miscues of readers with a wider range in reading ability had been analyzed.

Definition of Terms

Definitions of particular terms used in this study are given below.

Miscue: A miscue is "an actual observed response in oral reading which does not match the expected response" (K. Goodman, 1982, p. 94).

Graphophonic System: "The graphophonic system refers to the relationships between the sounds of language and the written form of language" (Y. Goodman & C. Burke, 1980, p. 10).

Syntactic System: "The syntactic system refers to the interrelationships of words, sentences, and paragraphs. It includes the interrelationships of word order, tense, number, and gender" (Y. Goodman & C. Burke, 1980, p. 11).

Semantic System: "It includes the relationships within a language that establish meaning for the user" (Y. Goodman & C. Burke, 1980, p. 12).

Syntactically Acceptable Miscue: "The miscue occurs in a sentence which is grammatically acceptable and is acceptable in relation to prior and subsequent sentences in the text" (Y. Goodman & C. Burke, 1972, p. 63).

Semantically Acceptable Miscue: "The miscue occurs in a sentence which is semantically acceptable and is acceptable in relation to prior and subsequent sentences in the text" (Y. Goodman & C. Burke, 1972, p. 63).

Correction: "When a reader becomes aware he has made a miscue, he may attempt to correct either silently or orally, or he may choose to continue reading without correcting" (Y. Goodman & C. Burke, 1972, p. 58).

Comprehension Pattern: "This provides information about the degree to which the students' reading strategies either facilitate meaning acquisition or permit the meaning of a selection to be disrupted" (Y. Goodman & C. Burke, 1972, p. 113).

Retelling Score: "The retelling score is a measure of the reader's ability to deal verbally with information, facts, and relationships from the material he has read" (Y. Goodman & C. Burke, 1972, p. 114).

Proficient Reader: The proficient reader is one who is reading not more than 6 months above grade level, as indicated by the Gates-MacGinitie Reading Tests, Survey D, Form 1.

Less Proficient Reader: The less proficient reader is one who is reading not more than 6 months below grade level, as indicated by the Gates-MacGinitie Reading Tests, Survey D, Form 1.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This chapter will review the literature regarding miscue analysis and the contributions it has made to reading based on a psycholinguistic theory.

The analysis of oral reading responses has moved through two separate periods. Leu (1982) pointed out that each of these periods can be "clearly distinguished by the nature of the theoretical frameworks, the categories used to describe behavior and the major research issues of the time" (p. 422). The first period ended during the late 1960's. The second period extends from the late 1960's to the present. The material for this review is presented under three headings: background theory, studies of oral reading responses to 1965, and studies of oral reading responses (miscues) since 1965.

Background Theory

Much of the early research of oral reading behaviour considered the quantity of errors and was concerned basically with evaluating reading skill, diagnosing weaknesses, and planning for remedial instruction. Investigators failed to take into account linguistic structure, or to study the errors of the oral reader to determine what might have

caused the unexpected response (Weber, 1968).

As early as 1908, Huey (1968) raised deep questions about the reading process and what it means to comprehend language. Huey viewed reading as an information processing activity. While most people were content with trial and error devices of teaching children to read, Huey said, "We have surely come to the place where we need to know just what the child normally does when he reads, in order to plan a natural and economical method of learning to read" (p. 9). Reading was viewed as well by Thorndike (1917) as something other than a simple, precise process.

Thorndike (1917) defined reading as follows:

> A very elaborate procedure, involving a weighing of each of the many elements in a sentence, their organizations in the proper relations one to another, the selection of certain of their connotations and the injection of others and the co-operation of many forces to determine final responses. In fact . . . the act of answering simple questions about a simple paragraph . . . includes all the features characteristic of typical reasoning. (p. 323)

The interrelated and complex concepts of reading generated by Huey and Thorndike have formed the basis for much of the research and theorizing that have occurred in the last decade and a half (Beebe, 1976b).

The early applications of linguistic knowledge to reading, however, were narrow. Bloomfield (1961), an American linguist, disagreed with the sentence/meaning approach to reading and believed that the child should be familiar with all the printed alphabet before reading begins. He devised a linguistic system of reading, one in which

letters and sounds were associated in a vast number of different patterns. The first reading material of the lessons consisted of two and three letter words which would be presented without regard to meaning. Bloomfield believed that the child would get meaning, once he solved the mechanical problem of reading.

Another linguist, Fries (1962), concerned with the teaching of reading and applying linguistics to reading, acknowledged that the reading process is not a simple precise one. However, according to Fries, it can be summed up quite simply. He stated:

> One can 'read' insofar as he can respond to the language signals represented by patterns of graphic shapes as fully as he has learned to respond to the same language signals of his code represented by patterns of auditory shapes. (p. 119)

Fries' method involved a spelling-pattern approach, whereby the beginning reader had to learn to respond to the contrastive features that separate and identify whole word-patterns. The beginning reader used reading materials which would include words like at, cat, bat, rat.

LeFevre (1964) pointed out that current reading methods and materials did not relate to the rationale of structural linguistics. He emphasized that reading is a language related process and that reading research ought to utilize the knowledge that linguistics has to offer. LeFevre moved away from the emphasis being placed on isolated letters and letter/sound relationships. He believed that if the emphasis were placed on larger patterns than words, the

beginning reader would then develop his own generalizations of spelling-sound relationships. For LeFevre, the essence of reading readiness was the child's understanding that the language he/she heard and spoke could be represented graphically in writing and print and that the graphic symbols said something. In contrast to the views of Bloomfield (1961) and Fries (1963), LeFevre stated that to comprehend printed matter the reader must perceive entire language structures as wholes, as unitary meaning bearing patterns. It is this level of perception which is capable of meaning and anything less than this leaves the reader perceiving words as if they were capable of being meaning bearing units in and of themselves. It seems that these linguists were more concerned with reading instruction and devising reading programs than with understanding the process of reading.

Kolers (1972) suggested that early reading instruction emphasized the visual aspect of print and neglected to stress sufficiently the syntactic and semantic concerns of the reading process. He maintained that reading instruction needed to move away from the visual domain and the emphasis ought to be one of reading to obtain information and meaning. In analyzing the oral reading errors of college students, Kolers (1970) found that 61% of the students' uncorrected errors were grammatically acceptable. Generally, the error was left uncorrected, indicating a greater concern for syntactic than for graphophonic relationships.

When listening, we sample redundant trains of sound. So, too, does this sampling occur in reading. We need not see every letter of every word to know what is being said. Skilled reading involves sampling larger units of language; it is not information processing letter by letter (Hochberg & Brooks, 1970).

Venesky and Calfee (1970) suggested that we resort to letter/sound relationships only when the syntactic and semantic sources of information are inadequate for word identification. Adult readers regress if the meaning is not clear, or if there is a need to correct. Young readers should be encouraged to regress in order to clarify meaning or reading strategies (Allen, 1976).

Holdaway (1979), in presenting a psycholinguistic view of reading, stated:

> Reading is not a matter of perceiving or recognizing words first and then getting to the meaning but rather meaning guides and facilitates perception. The influence of meaning in reducing uncertainty greatly limits the amount of visual detail which must be processed and, in so doing makes perception more rapid and efficient, while at the same time allowing the greater part of attention to be directed towards comprehending. (p. 87)

The psycholinguistic view of reading is maintained by Smith (1973, 1978). He contended that very little meaning is derived by the reader who identifies every word in the passage, and only if meaning is uppermost in the reader's mind is it likely that he will read the words correctly. Smith (1973) stated:

> Reading is not primarily a visual process. Two kinds of information are involved in reading, one that comes from the front of the eyeball, from the printed page, that I call visual information, and one that derives from behind the eyeball, from the brain, that I call non-visual information. Non-visual information is what we already know about reading, about language and about the world in general. (p. 6)

Following an analysis of children's miscues, K. Goodman (1965) concluded that reading could be considered a psycholinguistic guessing game. The reader makes minimal use of graphic, syntactic, and semantic cues, engages in tentative information processing, predicts, samples, confirms or disconfirms, and reprocesses or corrects when necessary. The reader is actively seeking to make sense of written language. Young (1978) referred to the simultaneous use of the three cueing systems during the reading process. The reading act is one of sampling, predicting, testing, confirming, or disconfirming. He suggested:

> The meaning-seeking learner develops strategies which depend heavily on contextual information processed previously, as well as his language-experience background, as he predicts the author's upcoming idea. He validates or rejects the predictions in light of subsequent contextual information. If the predictions are judged valid, he continues to read. On the other hand, if predictions are found inconsistent, the reader attempts to self-correct by further sampling the available cues. (p. 18)

To understand the reading process, researchers have chosen to study oral reading behaviour. They assume that the processes of oral and silent reading are so similar that the process revealed through oral reading would approximate the process underlying silent reading (Weber, 1968).

Fairbanks (1937) was convinced that a description of oral reading was a convenient method for studying the central process of silent reading, assuming that oral reading errors are representative of the silent reading process. Swanson (1937), attempting to validate Fairbanks' theory, made a comparison of the oral and silent reading of college freshmen and demonstrated that a rather close correspondence exists between certain processes in silent and oral reading. Swanson had the subjects read orally a passage and read silently phrases presented on a tachistoscope. A comparison was made of errors from both sources. Although no single type of error correlated highly on both tasks, there was a high correlation between the number of errors tabulated for each task. Attempting to find more evidence to support the theory that the two modes of reading are similar, Swanson correlated the total number of errors of adults with their performance on a silent reading test. The errors were also correlated with oral reading comprehension. Swanson's findings supported his hypothesis.

In an attempt to study the relationships between oral and silent reading processes, Gilmore (cited in Weber, 1968) analyzed the types of oral reading errors of 400 students in grades one to eight and correlated them with overall reading scores and both oral and silent reading comprehension. The oral reading scores and comprehension scores correlated positively with one another from grades one to eight. However, as Weber (1968) pointed out, it is

still debatable whether or not such evidence supports the hypothesis that the central processes of oral and silent reading are representative of each other.

Summary

Much of the early research in oral reading was concerned primarily with the quantity of errors when diagnosing reading weaknesses and planning for remedial instruction. When a child's observed response differed from the expected response, it was regarded as an error, and little attempt was made to determine the underlying causes of the unexpected responses. Over the past two decades the emphasis in reading has shifted from concern with the quantity of errors to the qualitative and quantitative study of unexpected responses.

Reading is no longer viewed as a simple, precise process of identifying words, but rather, it is viewed as a process of obtaining meaning from a graphic display. Reading is more than a visual process. The reader brings to the reading process his/her knowledge of letter/sound relationships, knowledge of language structure, and prior experiences. The reader relies on information from the graphophonic, syntactic, and semantic cueing systems of language to bring meaning to print.

Studies of Oral Reading Errors Prior to 1965

Early researchers (Monroe, 1928; Payne, 1930; Fairbanks, 1937; Swanson, 1937; Daw, 1938) tended to view unexpected responses as errors and therefore considered them

quantitatively. The quantity of errors was then used to determine the reader's proficiency. Weber (1968) concluded, on the basis of a survey, that the attitude in much of the literature seemed to be that every variance from a text indicated a deficiency in skill which required remedial attention.

Some of the early studies were concerned with the quality of oral communication as well as with the number of errors a reader made. Daw (1938), in an attempt to determine to what extent the reading difficulties of the primary grades persisted in grades four and five, assessed readers' enunciation, phrasing, expression, and volume. Remedies to correct the most common errors were suggested.

Ilg and Ames (1950) studied children from 15 months through 9 years of age. They observed the children as they progressed through the various stages of reading. These stages which they believed all children must pass through were referred to as the "reading gradient." Reading errors of the children were noted. They assumed:

> Many so called errors might well be relatively benign and characteristic response of certain age levels, and might indeed have definite developmental impact, as giving real clues to the rate of the child's progress through the reading gradient. (p. 106)

In a study of 380 children, ranging in placement from first to seventh grade, Monroe (1928) tabulated the errors of retarded readers and compared them with the errors of normal readers. She stated that the outstanding number of reversals and repetitions and the total number of errors

differentiated the normal from the retarded readers. Remediation methods were then directed specifically towards overcoming the types of errors in which a decrease in errors paralleled an increase in reading grades.

Schale (1966), in an attempt to identify the kinds of reading errors that occur at different elementary and secondary grade levels and the changes in types of errors from grade to grade, found that six of the eight major errors examined in her study were still evident in students' oral reading at twelfth grade. She suggested, therefore, that this implies that more time should be given to oral reading in the senior high school.

In an attempt to study readers of different proficiency levels, Malmquist (cited in Coomber, 1972) had all subjects read the same passage, and he recorded and later analyzed their errors. He considered only the quantity of errors. Malmquist concluded that the difference between proficiency levels was in the quantity rather than the pattern of errors and that there are not certain weaknesses in reading that constitute the poor reader. Fairbanks (1937), in a study of college freshmen who were referred to as good and poor readers, found that the poor readers made more reading errors than the good group, with substitutions being more frequent than other types of errors for both groups. Repetitions were studied in considerable detail. They were subdivided into repetitions of words, parts of words, and groups of words. In the poor group, repetitions were evenly

distributed amongst the three types, while the most common repetition of the good readers was of groups of words. Fairbanks stated that "worthy of note is the fact that while fifty-one percent of the poor readers' substitutions pervert meaning, no substitutions by the superior group were of that type" (p. 94).

Basically, most of the early studies of oral reading responses concentrated on quantity of errors, and their analysis did not extend to the syntactic and semantic features involved in the error. However, as Coomber (1972) has pointed out, early researchers have contributed significantly to what is known about the reading process today, despite the seemingly coarse methods employed compared to approaches currently used. Bennett (1942), in an analysis of 34,272 errors made by retarded readers in word recognition, studied the relationship of graphic similarity to the stimulus. The data indicated that the beginning and ending sounds of words are most frequently used as cues in word recognition, but the beginning of the word predominately serves as a more salient cue in word recognition. Bennett further noted that although the dominant letters and word parts play a part in word recognition, the responses are also governed by the structure of the context that the stimulus is in. Even though a response may be wrong, the same part of speech is frequently substituted; for example, a noun stimulus would elicit a noun substitution. Bennett's study indicated that 41% of the erroneous responses were

clearly associated in thought with the stimuli. They maintained that "errors do not occur in a haphazard way but are governed by the context in which the stimulus is incorporated and by unfortunate reading habits which the pupil has developed in the reading process" (p. 38).

As early as 1930, Payne (1930), in a study of the oral reading responses of 400 urban children in grades two to five, noted that if the child is somewhat mature in his reading habits and encounters an unknown word in context, he tends to substitute a word which will make the meaning clear. Payne found that not only the readers who were below average in oral or silent reading or both, made the errors reported. On the contrary, even the superior readers made the errors pointed out by the diagnosticians as peculiar to nonreaders.

Summary

Basically, the early studies in oral reading research concentrated on the quantity of errors and did not include study of the syntactic and semantic features involved in the error. Types of errors and how they persisted or changed through the grade levels were studied. Repetitions of words and groups of words were studied in considerable detail. Reading proficiency was determined by the quantity of errors and any type of deviance from the text was generally thought to indicate a need for remediation.

Studies of Oral Reading Errors Since 1965

The analysis of miscues in reading of a qualitative nature began in 1963 as a technique for studying closely what children do when they read (K. Goodman, 1965; K. Goodman & C. Burke, 1968, 1969, 1973; Y. Goodman, 1971). From this time onward, studies have attempted to analyze, within a psycholinguistic framework, oral reading miscues. At the time that the Goodman-Goodman-Burke studies were being conducted, studies in miscue analysis were being carried out by doctoral students at Wayne State University under the direction of K. Goodman. The early analysis of miscues by K. Goodman and C. Burke resulted in the development of the Goodman Taxonomy of Reading Miscues (1969). Based upon the taxonomy, Y. Goodman and C. Burke constructed a Reading Miscue Inventory (1972) which is designed to aid the educator in applying miscue research information in the classroom. It is an attempt to narrow the tremendous gap between research and application. It provides teachers with an effective procedure that allows them to gain insight into the reading process and at the same time assists them in evaluating the reading of their students.

The reader has at his/her disposal three cueing systems. These systems are referred to as the graphophonic, the syntactic, and the semantic sources of information. K. Goodman (1965) contended that reading involves the interrelationships of the three language systems. He stated:

> The child learning to read his native language has already internalized these cue systems to the point where he is responding to them without being consciously aware of the process. (p. 639)

K. Goodman (1965) conducted a study with 100 children in grades one, two, and three to determine their ability to recognize words in and out of context. Reasoning that in lists children have only graphophonemic cues whereas in stories they have additional cues, Goodman found that the children were able to read many words in context that they were not able to read from the word lists. The average first graders were able to read two-thirds more words in the story than in the list. The average second graders missed in a story only one in four of the words that they missed on a list, while the third graders were able to identify in stories 82% of the words that they missed on the list. There was no occasion when a child got a word correct on a list but missed it repeatedly in the story. It was noted from the study that when the children regressed while reading the story, it was for the purpose of correcting their miscues. However, if a missed word on the list did not get corrected immediately, the child very rarely regressed to make the correction. K. Goodman concluded that since it is easier to read words in context than in isolation, it appears to be unnecessary to introduce vocabulary to children prior to their reading a new story. Psycholinguistic research suggests that readers depend more upon syntactic than upon graphic and semantic cues (Melvin, 1979). The focus in

teaching reading ought to be the context of whole language, rather than analyzing and identifying words from lists.

An extension of the K. Goodman study (1965) was carried out by McMullin (1980). The substitutions of words in isolation and in context of 100 second graders were analyzed. These children were of rural, low, and middle socioeconomic backgrounds. The subjects were presented words on a list, and the same target words were presented in context. The student t-ratio for correlated samples was used to compare the number of substitutions on each task. The relationship between substitution miscues and reading comprehension was also examined. The subjects recognized significantly ($p < .005$) more words in context than they did in isolation. Context appeared to be a significant aid to word recognition. This finding supports K. Goodman's findings.

McMullin compared the total graphic similarity of substitutions made in isolation with those made in context. The comparison produced significant results. The graphic similarity score for substitutions occurring in isolation was greater than for substitutions occurring in context. The graphic display of the word appeared to be a more salient cue for word recognition in isolation than in context. This collaborates Goodman's (1965) reasoning that in word lists the only cues that children have are those inherent in the words.

McMullin further suggested that because two-thirds of the children's substitutions in the study conformed to the rules of their language, there is evidence that the child's language is a very important base for reading. She maintained that the most appropriate materials for beginning readers would be those in which the syntactic structures are similar to those of the child's oral language. While more than 66% of the children's miscues in McMullin's study were syntactically acceptable, a large proportion of those produced a change in meaning. This indicates a need for teachers to emphasize to children the importance of striving to obtain meaning when reading. McMullin suggested that this is best accomplished when children are presented with reading materials that are not too difficult.

The extent to which syntactic information is used by readers is demonstrated through studies of readers' miscues. K. Goodman and C. Burke (1968) analyzed the reading miscues of fourth- and fifth-grade proficient readers. This study verified the simultaneous use by readers of the graphophonic, syntactic, and semantic cueing systems. It especially pointed out the degree to which the reader uses syntactic information. They reported that all of the children seemed to have strong control of language, and correction of the miscue tended to depend upon the syntactic and semantic acceptability of the language structure. Very small percentages of their miscues resulted in grammatical patterns which were totally unacceptable, and a very high percentage of their miscues produced fully acceptable grammatical patterns.

Clay (1968) examined the role of the syntactical rules of grammar in the readers' selection of a response. The subjects were 100 5-year-olds in New Zealand. They were described as representative of the Auckland urban area in intelligence and parent occupation. The children were from two middle-class suburbs, two working-class suburbs, and one school in a poor area of the city. The teaching method used with the children discouraged the teaching of words in isolation. Reading for meaning was stressed rather than skill in letter/sound relationships and word analysis. The children were observed weekly for a period of one year. During this period, 10,525 errors were tabulated and one-fourth of these were self-corrected. Of the 7,674 substitutions all but 28% occurred in equivalent morpheme-class structure or morpheme-sequence class structure (i.e., more than one linguistic unit). The strong control that the syntax of a child's language has in his reading is evident from Clay's study.

In another study, Weber (1970) analyzed the oral reading responses of strong and weak first-grade readers to determine the different strategies they used in handling print. The errors were analyzed in terms of their appropriateness to preceding grammatical context. Both strong and weak readers made responses that were grammatically acceptable to preceding text about 90% of the time, indicating their sensitivity to grammatical constraints. Weber stated that this evidence lends support to the idea that beginning readers use their knowledge of the language rather

than reading word by word. Menosky (1971), in a study of miscues generated by children from grades two to eight, reported that as readers progressed through text they moved toward an increased consideration of syntactic and semantic concerns and away from graphic and phonemic concerns. She found that all of the groups had a strong control of syntactic structure, and miscues were nearly always at least partially acceptable with some portion of the sentence.

In a study of six highly proficient sixth-grade readers, C. Burke (1969) found support for the utilization of syntactic cues. The miscues of these readers retained a high syntactic proximity to the stimuli. The study indicated that 81% of the miscues were syntactically acceptable. According to Allen (1969), readers of second-, fourth-, and sixth-grade levels revealed a stronger awareness of the syntactic system than of the graphophonic or the semantic systems.

Studies have focused on the effects of dialect on reading performance. Sims (1972) examined the oral reading miscues of 10 second graders. The children read two stories, one written in black dialect and one written in standard English. Sims analyzed the miscues, using the Goodman Taxonomy of Reading Miscues. The purpose of the study was to determine the value of using dialect materials with the beginning reader and to determine if there are any qualitative and quantitative differences between the miscues generated on the two types of materials. Two groups of

readers emerged from the study, one group being more proficient than the other. The proficient group tended to have more acceptable miscues and to be more efficient in their correction strategies. According to Sims, the differences related to their reading proficiency and use of strategies rather than to any differences due to reading standard English or dialect related text.

In order to investigate the interference effects of a divergent dialect upon reading ability, Walker (1975) analyzed the oral reading miscues of a group of third-grade Newfoundland dialect speakers. Sixty students were divided into two groups. One group of 30 students read a passage in standard English, while a second group of 30 read a dialect version of the passage. Using the Reading Miscue Inventory, the miscues generated by the students were analyzed. A two-way analysis of variance was conducted to establish levels of significance between the miscues produced by each group. The data indicated that the group reading the standard English passage made significantly fewer total miscues and significantly fewer dialect miscues than the group who read the dialect version of the passage. The evidence revealed in a study by Liu (1976) disagrees with the supposition that failure in reading of black children is due to structural differences between dialect and standard English. Here findings indicated that providing dialect text to speakers of a black dialect would not prove beneficial over materials written in standard English. The findings of Rigg (1974)

supported other studies that have examined the effects of northern rural black English speakers and urban black English speakers along with one white southern English speaker. Following their reading of the story, the subjects were interviewed about it. The results demonstrated that there was no relationship between a reader's dialect and his proficiency in reading. Rigg maintained that, since the black English speakers produced an average of 20% black English features and 80% standard English features in their oral reading and interview, any time spent on instruction in standard English features for these students would be a waste of time. Rather, helping these students develop more effective reading strategies would be more beneficial.

Studies have been conducted to examine the strategies of beginning readers. Clay (1969) found that at the early stage of reading progress, children noticed their errors and made efforts to correct them. Based on the evidence from this study, it is considered that beginning readers who make good progress in learning to read develop strategies which result in the efficient processing of information. A study by E. Burke (1976) indicated that the quality of miscues improves as the child gets older. Burke analyzed the miscues of 7-, 8-, and 9-year-olds according to their graphic proximity and syntactic and semantic acceptability. She found that for the graphic category there was a minimal difference in the mean score between the 7- and 8-year-olds. The 8-year-olds had the lowest mean score in the graphic

category. In the syntactic category there was a considerable increase in scores from the 7- to 8-year-olds, with the 9-year-olds' mean score being slightly lower than that for the 8-year-olds. The only continuous increase in mean scores for the three age groups was found in the semantic category. E. Burke suggested that it appears that children initially have a greater reliance on graphic cues, but as reading skills develop they rely more heavily on syntactic and semantic cues.

Schlieper (1977) studied the oral reading errors made by children in the first three years of school and the relationship of these errors to grade and to level of performance. The errors were categorized as real words, nonsense words, omissions, and repetitions. The real word errors of the first-, second-, and third-grade children were examined according to the effect they had on the grammatical structure of the sentence. The analysis of errors showed a sharp change in error patterns from first grade to third grade. Sixty-nine percent of the third graders' but only 47.4% of the first graders' miscues were real words. The third graders' miscues showed a higher percentage of grammatical acceptability than those of the children in the preceding grades. Like E. Burke (1976), Schlieper suggested that as the children progressed they depended more heavily upon the context and structure of the material.

An investigation of the nature of graphic cues used for word identification by beginning grade-one readers was conducted by Eagan (1976). He compared the amount of graphic

information used by high-, average-, and low-beginning readers as well as the amount of graphic information used in isolation and in context. When the children were reading in context they utilized the other available cueing systems as well as the graphophonic system. The results of Eagan's study are consistent with those reported by Weber (1970) in that the most proficient or the high readers used more graphic information than the average or low readers. Eagan concluded that at least beginning readers do not lessen their use of graphic cues for the other cue systems but, instead, rely more heavily upon graphophonic cues. A study by Biemiller (1970) produced results similar to those of Eagan (1976) and Weber (1970). Biemiller was concerned with changes in the way contextual and graphic information is utilized by young readers. He found that children who were in the top and middle groups of his study produced much larger percentages of graphic substitutions than the low group.

A study to develop insight into the reading strategies of early readers was undertaken by Marsden (1979). Feeling that "a better understanding of reading strategies in early 'natural readers' could help provide instructional guidelines for classroom teachers" (p. 96A), Marsden selected for the study 14 kindergarten children with a reading vocabulary of at least 50 words and a grade score of at least 1.5 on the Gates MacGinitie Reading Tests. Each child read aloud, and the miscues were analyzed according to the Reading Miscue Inventory Manual. The data were analyzed for the overall sample as well as for the more effective and less effective

readers. The data revealed that these early readers utilized all three of the cueing systems efficiently, but there seemed to be no connection between reading comprehension and these reading skills.

Y. Goodman (1971) identified two major differences in average and slow readers. She stated:

> The difference in average and slow readers is not in the use of the reading strategies but in the ability to use them effectively so that they make a difference to the acceptability of the language produced by miscue. A second difference was the average readers' ability to emphasize one strategy to a greater extent than the others but at the same time keep all the strategies operating together. (pp. 76-77)

K. Goodman and C. Burke (1973) completed a 3-year study of oral reading miscues produced by readers ranging from low proficiency second graders to high proficiency tenth graders. This study was a continuation of almost 10 years of research in which they sought to build a theoretical understanding of the reading process through analyzing readers' miscues. The groups used in this study were relatively small, with five or six subjects at each proficiency level. The data from their study showed that readers of different proficiency levels used the same process, but the high proficiency readers used it more effectively. Because the less proficient readers used more graphic, syntactic, and semantic information than necessary, they experienced a greater meaning loss. All groups were equally successful at producing miscues of high graphic and phonemic proximity. K. Goodman and C. Burke noted that neither of the groups differed in their ability to use phonics, despite their

varying levels of proficiency.

Using the Taxonomy of Reading Miscues, Page (1970) observed and analyzed the miscues of a proficient reader in second grade, an average reader in fourth grade, and an average reader in sixth grade, reading 10 basal reader selections ranging from pre-primer to sixth grade. He found that the reading process varied with the different levels of material for each individual reader. In a study of the oral reading behaviour of remedial and proficient readers, Brody (1973) found that the remedial readers made more miscues and showed less efficient use of graphic and phonic cues than the proficient readers. Furthermore, in successive segments of the text, the remedial group's use of the syntactic and semantic cueing systems declined considerably, whereas the proficient readers' use of these systems was relatively constant throughout the reading. The remedial group over-corrected 11.1% of their miscues as compared to 6.3% for the proficient group.

In a study of 13-year-olds and 8-year-olds reading at the same instructional level, Sollenne (1976) reported no differences in the use of graphophonic and syntactic cues. A difference did exist in their use of the semantic cueing system. The older less proficient readers produced more miscues which were semantically acceptable than did the younger third-grade readers. Sollenne suggested the older readers might have encountered failure using graphophonic information but have experienced success in relying on syntactic and semantic cues.

Lauren's (1976) results were similar to Brody's in terms of the total number of miscues and the use of the correction strategy. Lauren's seventh-grade readers, reading at the same level as average fourth-grade readers, made a higher total of miscues and more uncorrected miscues which resulted in meaning loss than did the average fourth graders. However, there was no significant difference in comprehension between the two groups. Her analysis indicated that the disabled readers tended to make more miscues on high frequency words, whereas the average readers did so on low frequency words. Lauren made comparisons of the oral reading of the disabled seventh graders with that of average seventh graders. The miscues of these groups were similar, but their strategies differed when the miscues resulted in a loss of meaning.

In an attempt to determine the differences in the amount of information used from the three cueing systems by good and poor readers, King (1978) compared the oral reading behaviour of good (average fourth grade) readers and poor (low sixth grade) readers. As well, he investigated their ability to integrate information from two or more cueing systems simultaneously. Results indicated that both good and poor readers were able to utilize and integrate information from the available cueing systems. However, within the poor group of readers there was more variance in the mean scores than in the mean scores of the good group of readers. This indicates that the good readers were more efficient

than the poor readers in integrating the information at their disposal. Although there was no significant difference in the number of errors made by the good and the poor readers, there was a significant difference between the groups in the number of errors corrected and the proportion of semantically unacceptable errors corrected. This suggests that good readers are more sensitive to disrupted meaning. King's analysis revealed a significant negative relationship between the correction of syntactically unacceptable errors and reading comprehension for the poor readers. He suggested that good and poor readers not only differ in their correction strategies, but the good readers have patterns of reading behaviour which would appear to enhance their ability to construct meaning.

Miscues successfully corrected by second, third, fourth, and sixth graders were analyzed by Recht (1976). Comparisons were made between successful correction and comprehension, grade level, ability, and total miscues made. She reported that as the reader became more proficient and grade level increased, a higher percentage of miscues was corrected. Miscues which tended to distort meaning and interrupt comprehension were those generally corrected. "The correction, then, should not be regarded as an error, but rather as evidence of the reader's successful interaction with the text" (p. 633). Hu-Pei Au's (1977) findings support those of Recht. She reported that good readers corrected significantly more miscues than did poor readers. The poor

readers tended to rely more heavily on graphophonic cues than on syntactic cues, whereas the opposite was true for the good readers.

Guzzetti (1982) analyzed the miscues of students of differing abilities. These miscues were obtained as the students read passages of social studies and literature texts. Miscues were coded according to the Reading Miscue Inventory. Conclusions from the study indicated that all readers were able to use information from the syntactic and semantic cueing systems consistently, and the reading content did not alter the application of the reading strategies. Guzzetti found that it was the reader's background experiences and interest in the content of the material, rather than the content itself that affected the reader's being able to bring meaning to print and thus influence comprehension.

The miscues of low, average, and high readers, reading varying portions of text, were examined by Menosky (1971). The miscues were analyzed according to the Goodman Taxonomy of Reading Miscues. She examined the manner in which the miscues changed as the reader progressed through the text. The length of the text had the most significance for the low group. As they progressed through the text their miscues became more totally acceptable. The shorter passages produced more unacceptable miscues for all groups. The performance of all groups indicated a firmer control of syntactic structure than of meaning. The high readers were

more able to produce miscues that were more semantically acceptable. Menosky's study demonstrated that as readers gather information, they make guesses and when their guesses are not confirmed they regress in order to correct.

In a study of good and poor readers, Misanchuck (1978) concluded that both groups of readers utilized all three cueing systems, but that they differed in their use of them. Multivariate analysis of group means was used to determine differences between poor and good readers in graphophonic, syntactic, and semantic processing while reading. While there was no significant difference in the two groups' use of the graphophonic and semantic cueing systems, a significant difference did exist in the use of the syntactic cueing system. The good group produced a significantly higher percentage of grammatically acceptable miscues than the poor group. This finding is consistent with that of Shearer's (1982) study of good and poor fourth-grade readers. Misanchuck's study showed that male and female readers did not differ significantly in their use of the three cueing systems.

Jensen (1972) compared the oral reading behaviour of proficient second graders, weak sixth graders, and highly proficient sixth graders. She reported that visual information was used effectively by all groups. The proficient readers produced more miscues which were syntactically and semantically acceptable than did the weaker readers. All groups used the correction strategy, but the proficient

readers used this strategy more frequently than the less proficient readers. Jensen suggested that the

> correction strategy is an extremely important factor separating proficient from weak readers . . . it reveals a deeper underlying competence, the ability to deal with reading as language. Proficient readers process language with the knowledge that reading must sound like language and must have meaning. When a miscue disrupts either grammar or meaning, it is likely to be corrected by the good reader. (p. 138)

Studies conducted amongst readers of varying proficiency levels present conflicting findings. While the studies indicated that all readers use the graphophonic, syntactic, and semantic cueing systems there are contradictory results regarding the extent to which the systems are utilized by readers of different ability. Studies conducted by K. Goodman and C. Burke (1973), Sollenne (1976), and Misanchuck (1978) indicated no difference by readers in the utilization of the graphophonic system. Contrary to this finding, Hu-Pei Au (1977) reported that poor readers relied more heavily on graphophonic information than good readers.

According to Jensen (1972), Hu-Pei Au (1977), and Misanchuck (1978) good readers used the syntactic cueing system more efficiently than poor readers. Sollenne (1976) found no differences in the utilization of this system among older less proficient and younger proficient readers. In studies conducted by Jensen (1972) and Sollenne (1976) proficient readers used the semantic cueing system more efficiently than did less proficient readers. However, Misanchuck (1978) found no significant differences in the use of this

system by good and poor readers.

Other miscue research has examined the differences in the oral reading behaviour of children who have been taught to read by phonics and meaning emphasis approaches. Norton and Hubert (1977) examined the differences in oral reading behaviour of children taught by a phonics program and children who received instruction through an eclectic basal approach. The subjects were high, average, and low ability first graders. In the phonics program, intensive attention was given to the decoding skills, and vocabulary was controlled according to the regularity of the spelling patterns. The emphasis was placed on sounding out rather than on meaning. The eclectic program, however, stressed meaning, with a more gradual approach to phonics analysis. The findings indicated that the students who received the eclectic approach to reading instruction produced more miscues that were syntactically and semantically acceptable. The mean percentages showed that less than 40% of the eclectic group's miscues were semantically acceptable, while the percentage of semantically acceptable miscues for the phonics groups ranged from 29.6 to 35.6%. The mean percentage of corrections for the high ability eclectic groups was 46%, while it was 15.6% for the high ability phonics group.

The data from Norton and Hubert's study demonstrated that phonics programs resulted in students having low comprehension scores and high word recognition scores, whereas programs emphasizing an eclectic approach resulted in

students scoring higher on comprehension tests than on word recognition tests.

Bryce (1978) examined the oral reading behaviour of two groups of grade one students, one of which received instruction through a phonics approach and the other through a language experience approach. He found that the language experience group was able to use syntactic and semantic constraints more effectively than the phonics group. The children who received instruction through the language experience approach obtained higher comprehension scores than those instructed through the phonics approach. His study indicated, as did that of Norton and Hubert, that the phonics group produced more nonwords. Bryce also found that for graphic similarity of the miscue to the text stimulus there was no significant difference between children taught by a phonics approach and those taught by the language experience approach. This result conflicts with Norton and Hubert's (1971), in that they reported a high graphic proximity in the group's miscues.

Data from a study by L. Carnine, D. Carnine, and R. Gersten (1984) offer conflicting results. These researchers analyzed the miscues of first- and third-grade students who were economically disadvantaged. These students had been instructed with the same code emphasis program. As would be expected the first-graders' miscues tended to have a high graphic similarity to the expected response (70%) whether the substitution was a real word or a nonsense word.

A very low percentage of their miscues was syntactically or semantically constrained (20%). The third-grade students, although taught by the same code emphasis program, were a great deal more sensitive to contextual cues than were the first graders. All but 10% of the third-graders' miscues were semantically constrained. Seventy-nine percent of their miscues indicated syntactic constraints and 76% of their miscues were graphically similar. It appears that the third graders have been successful in integrating phonics and contextual cues.

Summary

Since 1965 studies have attempted to analyze, within a psycholinguistic framework, oral reading miscues. Research using the Goodman Taxonomy of Reading (1969), the Reading Miscue Inventory (1972), or modified versions of this procedure has enabled reading researchers to gain insight into the reading process. During this period researchers have attempted to determine the causes underlying the unexpected responses or miscues. Studies have concentrated on how readers utilize the cueing systems of language and how readers of different proficiency levels differ in their use of the systems. Research has shown that readers rely in varying degrees upon information from the graphophonic, syntactic, and semantic systems to bring meaning to print.

CHAPTER III

METHODOLOGY

The purpose of this study was to compare the reading behaviour of proficient and less proficient fourth-grade readers to determine differences in their reading strategies. This chapter will present the design of the study, a description of the sample used, the instrumentation used in the study, methods and procedures utilized, and questions examined in the study.

Design

Forty-one students in two grade four classes were selected in May, 1980, to read orally the story "Space Pet," selected from the Reading Miscue Inventory (1972). The Fry Readability Formula (M. Cheek & E. Cheek, 1980) indicated the readability of this story to be of an early fifth-grade level. This story was chosen because it was felt that it would be difficult enough to generate a sufficient number of miscues. The Gates-MacGinitie Reading Tests, Survey D, Form 1 (1968) was administered in mid-May, 1980, to all students in order to obtain individual grade equivalent scores for comprehension.

The reading comprehension grade scores ranged from 2.3 to 11.9. Students whose comprehension scores fell

between 4.2 and 4.7 and between 4.9 and 5.4 were selected for the study. This indicated a reading level of not more than 6 months above grade level and not more than 6 months below grade level. At the time of the testing the students' grade level was 4.8. The classroom teachers' rating of the students' reading abilities supported the grade level comprehension scores on the Gates-MacGinitie Reading Tests.

The writer was interested in examining the similarities and differences in the use of the cueing systems by proficient and less proficient readers within a 1-year difference in reading level and therefore excluded the 31 remaining students from the study.

The following questions were examined in this study:

1. Do all readers, whatever their stage or level of proficiency, utilize all three cueing systems to the extent that not less than 20% of their miscues show graphophonic similarity, syntactic acceptability, and semantic acceptability?
2. Do all readers utilize the cueing systems equally?
3. Do the miscues of less proficient readers have a higher graphophonemic proximity to the expected response than the miscues of proficient readers?
4. Do proficient readers produce a higher percentage of syntactically acceptable miscues than less proficient readers?
5. Do proficient readers produce a higher percentage of semantically acceptable miscues than less proficient readers?

6. Do less proficient readers produce a higher percentage of miscues resulting in meaning change than proficient readers?
7. Do proficient readers correct a higher percentage of miscues than less proficient readers?
8. Do less proficient readers correct a higher percentage of semantically acceptable miscues than proficient readers?

The Sample

The initial test population consisted of 41 heterogeneously grouped fourth-grade students from an elementary school in Portugal Cove, Newfoundland. This school, which is under the jurisdiction of the Avalon Consolidated School Board, was selected for the study because the writer was employed at the school at the time of the study. The 10 students in the study were selected after all of the fourth-grade students were administered the Gates-MacGinitie Reading Tests, Survey D, Form 1 (1968). Students who were reading 6 months or more above grade level or more than 6 months below grade level were excluded from the study. The students selected for study were being instructed from the same basal reader, Hockey Cards and Hopscotch, Level 4, of the Nelson Language Development Reading Program (1971).

Instrumentation

The instruments used in this study included the comprehension subtest of the Gates-MacGinitie Reading Tests,

Survey D, Form 1 (1968), and the Reading Miscue Inventory (Y. Goodman & C. Burke, 1972).

Gates-MacGinitie Reading Tests

The Gates-MacGinitie Reading Tests, Survey D, Form 1, was administered by the classroom teachers to all students in the two grade four classrooms from which the sample was selected for this study. Survey D is intended for use in grades four through six. The test consists of three subtests--speed and accuracy, vocabulary, and comprehension. The speed and accuracy subtest was not administered. Although the vocabulary subtest was administered, the students were selected for the study on the basis of the comprehension subtest score rather than on vocabulary and comprehension scores or on a composite score. The authors of the test suggest that the comprehension score be used if a single index of reading ability is desired.

The comprehension subtest consists of 21 passages containing a total of 52 blank spaces. The student has a choice of five completions for each blank space and must consider the meaning of the whole passage when choosing an answer. Initially, the passages are easy but become more difficult as the reader progresses. Norms for the test were developed by administering the test to approximately 40,000 pupils in 38 communities across the United States (Gates & MacGinitie, 1965). The comprehensive standardization methods, according to Van Roekel (Buros, 1972), were very carefully done.

The directions for the test were read carefully to the children and sample exercises worked through with them. The time limits assigned to each test, 15 minutes for the vocabulary subtest and 25 minutes for the comprehension subtest, were adhered to rigidly.

The Reading Miscue Inventory

The Reading Miscue Inventory (RMI) (Y. Goodman & C. Burke, 1972) is a diagnostic and evaluative instrument that has evolved from the Goodman Taxonomy of Reading Miscues. This instrument provides a qualitative as well as a quantitative analysis of reading proficiency. The RMI consists of a manual, a practice analysis manual, selected readings for taping, coding sheets, and profile sheets for each individual reader. Six taped readings are included for use with the practice analysis manual to familiarize the user of the RMI with proper diagnostic and evaluation procedures. The reading selections vary in difficulty and length and represent a wide range of interests.

Testing Procedures

A letter was sent to the parents (see Appendix) of each child in the initial population asking permission for their child to participate in a study to be undertaken by the writer. The writer briefly outlined the purpose of the study. Once the parents returned the letters of consent a time was scheduled with each child to begin testing. The samples of oral reading were obtained during the lunch

periods and after school hours of the children's school day. This arrangement met with the approval of the teachers and the principal of the school.

Each child read individually in a room which was fairly quiet with just the writer present. The writer explained to each child the nature and purpose of the task. The child was asked to read a story in order that the writer might find out some things about the way he/she read. The reader was told that he/she might encounter some difficult words but that the writer would not be able to provide the pronunciation or definition of the word. If the child was not successful in identifying a word he/she should continue to read on.

The child was informed that during the reading the writer would be following along a copy of the same story and making notes from time to time. The child was also told that following the reading he/she would be asked to retell as much of the story as possible. The writer informed the child that a tape recorder would be used to tape the reading since the writer would want to listen to the reading at a later time. The child was asked to state his/her name prior to beginning to read. The writer sat to the side and back a little from the child in order not to distract him/her while reading.

Each child was given the original copy of the story "Space Pet" selected from the Reading Miscue Inventory (Y. Goodman & C. Burke, 1972). The readability level of

this passage, as determined by the Fry Readability Formula, indicated that it ought to be difficult enough to generate a sufficient number of miscues. The writer noted miscues, including substitutions, reversals, omissions, and insertions. This was recorded on a copy of the text which the child read. No assistance was given to the child during the testing period.

Following the reading of the story each child was asked to retell as much of the story as he/she could remember. The retelling was audiotaped for later listening at which time the retelling was written verbatim. In order to determine as closely as possible the child's comprehension of character, plot, events, and theme, the writer asked questions based on the child's retelling, rather than questions which contained information that the child had not included in his/her retelling. A retelling score was assigned to each child. The retelling of the story produces a possible retelling score of 100 points. Each of the four categories is assigned points as follows: character analysis, which is subdivided into character recall and development, 30 points; theme, 20 points; plot, 10 points; and events, 30 points. The child's retelling was compared with a retelling format and points assigned. The retelling format prepared by Y. Goodman and C. Burke (1972) consists of the categories listed previously, and the assigned points are divided among the number of items in each category.

The audio tapes were monitored and additional miscues were noted for each child. These miscues were added to those already on the prepared copy of the text as a part of the miscue analysis procedure. The miscues were then coded according to the Reading Miscue Inventory (1972). Miscues were identified as:

Substitution: A word which differs from the word in the text. The incorrect word is written over the correct word (Y. Goodman & C. Burke, 1972).

Insertion: Any word or punctuation that is inserted into the text. An insertion is indicated by an insertion sign ∧ (Y. Goodman & C. Burke, 1972).

Omission: Any word, word part, or punctuation that is omitted from the text. This is indicated by circling the omitted portion (Y. Goodman & C. Burke, 1972).

Reversal: Any letters, words, phrases, or clauses which are interchanged. Reversals are indicated by using the editors' transpositional symbol, i.e. ⌒ (Y. Goodman & C. Burke, 1972).

Following are examples of each type of miscue taken from the reading of children who participated in the study.

Substitution

Reader: Sven removed the mask and she hoped onto his finger.

Text: Sven removed the mask and she hopped onto his finger.

Omission

Reader: None of figured out why he chose the pet he did.

Text: None of us figured out why he chose the pet he did.

Insertion

Reader: This was not as hard as it sounds since you need a little sleep in space.

Text: This was not as hard as it sounds since you need little sleep in space.

Reversal

Reader: She usually wakes up him.

Text: She usually wakes him up.

Each miscue was viewed in terms of intonation, graphic and sound similarity, grammatical function, correction of miscue, grammatical acceptability, semantic acceptability, and meaning change. The Reading Miscue Inventory (1972) procedures include asking questions about each of the reader's miscues. Y. Goodman and C. Burke (1972) said that "these questions are asked about each miscue so that the effect of all the language systems operating within the reading process can be measured" (p. 49).

The questions asked about each miscue follow:

1. Does the miscue involve a shift in intonation? Intonation is coded as a miscue only when a change in grammatical structure occurs or when there is a change in meaning.
2. How much graphic similarity is there between the observed response and the expected response? If two or more

parts of the miscue are similar to the text word the miscue is coded as having high graphic similarity and marked "Y". If only one part of the miscue is similar, the miscue is coded as having some similarity and is marked "P". If no similarity exists the miscue is marked "N".

3. Does the miscue sound like the text word? Again, if two or more parts of the miscue sound like the text word, it is considered to have high sound similarity and is marked "Y"; if one part of the miscue sounds similar to one part of the text word, it has some similarity and is marked "P"; and if no part of the miscue is similar in sound to the text word, it is marked "N".

4. Does the miscue have the same grammatical function as the word in the text? If the miscue has the same grammatical function as the text word, it is marked "Y"; if it is different, it is marked "N". Occasionally the language unit resulting from a miscue may be so short or disrupted that the grammatical function cannot be determined. In such cases, a "P" mark is assigned. If the miscue is an omission or insertion, or involves more than one word, this category is not marked.

5. Does the reader correct the miscue? If the miscue is corrected, it is marked "Y"; if the reader attempts a correction but is unsuccessful, or if a correct response is abandoned, the miscue is marked "P"; and if no

correction is attempted, the miscue is marked "N".

6. Is the sentence in which the miscue occurs a grammatically acceptable structure? If the miscue occurs in a sentence which is grammatically acceptable and is, acceptable in relation to prior and subsequent sentences in the text, the miscue is marked "Y"; if the miscue occurs in a sentence which is grammatically acceptable but is not acceptable in relation to prior or subsequent sentences in the text, or if the miscue is grammatically acceptable only with the sentence portion prior to or following the miscue, the miscue is marked "P". If the miscue occurs in a sentence which is not grammatically acceptable, then the miscue is marked "N".

7. Is the sentence in which the miscue occurs semantically acceptable? If the miscue occurs in a sentence which is semantically acceptable in relation to prior and subsequent sentences within the text, the miscue is marked "Y"; if the miscue occurs in a sentence which is semantically acceptable, but not acceptable in relation to prior and subsequent sentences, or is semantically acceptable only with the sentence prior to or following the miscue, it is marked "P"; if the miscue occurs in a sentence that is not semantically acceptable, it is marked "N".

8. Does the miscue result in a change in meaning? If the miscue causes an extensive change in meaning, it is marked "Y"; if a minimal change in meaning is involved,

the miscue is marked "P"; and if no change in meaning occurs because of the miscue, it is marked "N".

Many of the children's miscues in this study were probably influenced by dialect. Studies have concluded, however, that dialect does not interfere with reading comprehension (Liu, 1976; Rigg, 1974; Sims, 1972; Walker, 1975). Therefore this study did not include coding the miscues in terms of dialect.

The questions asked about each miscue provide one with a qualitative as well as a quantitative analysis of an individual's reading miscues. The qualitative differences can be recognized in the miscues of these two readers who participated in this study:

First Reader: I was (went) still only half awake when I joined the others at breakfast.

Second Reader: She's never done (that) this before.

Both readers each made one miscue. The miscue of the first reader, however, resulted in a syntactically/semantically unacceptable sentence. The miscue of the second reader is not disruptive of grammatical structure and it causes a minimal change in meaning.

Similarities and differences in miscue types and the use of cueing systems that exists among readers within each group were examined. The miscues of each group were examined in terms of the amount of graphic/sound similarity, the percent of syntactically and semantically acceptable

miscues, the percent of miscues corrected, and the extent to which each group's miscues disrupted the meaning of the passage.

CHAPTER IV

FINDINGS OF THE STUDY

The purpose of this chapter is to present the findings of the study as they relate to the questions posed by the writer. The questions examined in the study follow:

1. Do all readers, whatever their stage or level of proficiency, utilize all three cueing systems to the extent that not less than 20% of their miscues show graphophonic similarity, syntactic acceptability, and semantic acceptability?
2. Do all readers utilize the three cueing systems equally?
3. Do the miscues of less proficient readers have a higher graphophonemic proximity to the expected response than the miscues of the proficient reader?
4. Do proficient readers produce a higher percentage of syntactically acceptable miscues than less proficient readers?
5. Do proficient readers produce a higher percentage of semantically acceptable miscues than less proficient readers?
6. Do less proficient readers produce a higher percentage of miscues that result in meaning change than proficient readers?
7. Do proficient readers correct a higher percentage of miscues than less proficient readers?

8. Do less proficient readers correct a higher percentage of semantically acceptable miscues than proficient readers?

The writer examined the similarities and differences in the ways in which proficient and less proficient readers utilize the three cueing systems of language which they have available (i.e., the graphophonic, the syntactic, and the semantic cueing systems). Mean percentages were tabulated for the proficient and less proficient groups of readers for each of the following variables: graphic/sound similarity, syntactic acceptability, semantic acceptability, corrected miscues, miscues resulting in meaning change, and the total number of miscues generated by readers in each group. The variables examined and referred to in the tables are defined by Y. Goodman and C. Burke (1972), as follows:

> High graphic similarity - If two of three parts of the miscue are similar to the text item a high degree of similarity is said to exist. (p. 53)
>
> High sound similarity - If two of three parts of the miscue are similar to the text item a high degree of similarity is said to exist. (p. 53)
>
> Syntactical acceptability - The miscue occurs in a sentence which is grammatically acceptable and is acceptable in relation to prior and subsequent sentences in the text. (p. 63)
>
> Semantic acceptability - The miscue occurs in a sentence which is semantically acceptable and is acceptable in relation to prior and subsequent sentences within the text. (p. 63)

Corrected miscue - When a reader becomes aware that he has made a miscue, he may attempt to correct either silently or orally, or he may choose to continue without correcting. (p. 58)

Meaning change - An extensive change in meaning is involved. (p. 63)

Analysis of the Data

Question 1. Do all readers, whatever their stage or level of proficiency, utilize all three cueing systems to the extent that not less than 20% of their miscues show grapho-phonic similarity, syntactic acceptability, and semantic acceptability?

Findings. Table 1 presents the percentage of proficient readers' miscues having high graphic similarity, high sound similarity, grammatical acceptability, and semantic acceptability. The findings indicate that readers in both groups utilize all three cueing systems to varying degrees.

Table 1

Percentage of Proficient Readers' Miscues Having High Graphic Similarity, High Sound Similarity, Syntactic Acceptability, and Semantic Acceptability

Student	High Graphic Similarity	High Sound Similarity	Syntactic Acceptability	Semantic Acceptability
A	65	59	40	28
B	35	35	43	37
C	75	75	50	38
D	47	47	63	52
E	50	46	58	37

For the proficient group of readers, the miscues having a high graphic similarity to the expected response ranged from 35 to 75%, with a mean of 54%. The miscues having a high sound similarity to the text ranged from 35 to 75%, with a mean of 52%. This group of readers produced miscues having syntactical acceptability, with a range of 40 to 63%, and a mean of 51%. There was a range of 28 to 52% for miscues having semantic acceptability, with a mean of 38%.

While this group of readers used all three cueing systems, they relied more heavily on graphophonic cues than on syntactic or semantic cues. Table 2 presents the percentage of less proficient readers' miscues having high graphic similarity, grammatical acceptability, and semantic acceptability.

Table 2

Percentage of Less Proficient Readers' Miscues Having High Graphic Similarity, High Sound Similarity, Syntactic Acceptability, and Semantic Acceptability

Student	High Graphic Similarity	High Sound Similarity	Syntactic Acceptability	Semantic Acceptability
F	55	49	25	20
G	66	68	61	43
H	75	73	48	34
I	59	54	40	26
J	53	44	37	22

The miscues of the less proficient group of readers having a high graphic similarity to the text indicated a range of 53 to 75%, with a mean score of 62%. There was a range of 44 to 73% of miscues having a high sound similarity to the expected response, with a mean of 58%.

There was a range of 25 to 61% of the less proficient readers' miscues which were syntactically acceptable, with a mean of 42%. Twenty to 43% of this group's miscues were semantically acceptable, with a mean of 29%. Although a mean of 60% of the less proficient readers' miscues showed a high graphic/sound relationship, the findings indicate that they utilize all three cueing systems.

Question 2. Do all readers utilize the cueing systems equally?

Findings. Table 3 presents the mean percentages for the proficient and less proficient groups in the four variables--high graphic similarity, high sound similarity, syntactic acceptability, and semantic acceptability.

Table 3

Proficient and Less Proficient Readers' Mean Percentages For High Graphic Similarity, High Sound Similarity, Syntactic Acceptability, and Semantic Acceptability

	High Graphic Similarity	High Sound Similarity	Syntactic Acceptability	Semantic Acceptability
Proficient	54	52	51	38
Less Proficient	62	58	42	29

The data indicate that the readers in this study do not utilize the cueing systems equally, nor do the two groups of readers use them equally. The miscues of the less proficient readers show a mean of 62% of their miscues having a high graphic similarity and a mean of 58% with a high sound similarity to the expected response, as compared to the proficient readers who had a mean of 54% of their miscues with a high graphic similarity and a mean of 52% with a high sound similarity. The less proficient readers relied more heavily on the graphophonic cueing system than did the proficient readers. The proficient group produced a higher number of syntactically acceptable miscues than the less proficient readers, with a mean of 51%. The findings for the less proficient group indicate a mean of 42% of syntactically acceptable miscues. The greatest difference in the mean percentages for both groups was in semantic acceptability. The mean percentage of semantically acceptable miscues for the proficient readers was 38, and for the less proficient readers, 29.

Question 3. Do the miscues of the less proficient readers have a higher graphophonemic proximity to the expected response than the miscues of the proficient readers?

Findings. In this study the readers in the less proficient group produced more miscues with a high graphic similarity to the text than did the readers in the proficient group (see Table 3). The mean percentage of miscues with a high

graphic similarity to the expected response was 62 for the less proficient readers and 54 for the proficient group. This indicates a difference of 8 percentage points in the two groups. The readers in the less proficient group produced a higher number of miscues with a high sound similarity to the expected response than did the readers in the proficient group. The mean of the less proficient readers' miscues with a high sound similarity to the expected response was 68%, while the mean of the proficient readers' miscues with a high similarity to the expected response was 52%. The results indicate that in this study the miscues of the less proficient readers have a higher graphic/sound similarity to the expected response than the miscues of the proficient readers.

Question 4. Do proficient readers produce a higher percentage of syntactically acceptable miscues than less proficient readers?

Findings. The mean percentage of the syntactically acceptable miscues produced by the proficient group of readers was 51, while the mean percentage of those miscues produced by the less proficient readers was 42. This indicates that the proficient readers in this study produced more syntactically acceptable miscues than did the less proficient readers (see Table 3).

Question 5. Do proficient readers produce a higher percentage of semantically acceptable miscues than less proficient readers?

Findings. The proficient readers produced more miscues that were semantically acceptable than did the less proficient readers. The mean of the semantically acceptable miscues produced by the proficient group was 38%, while the mean of those miscues produced by the less proficient readers was 29%. This indicates a 9% difference in the two groups (see Table 3).

Question 6. Do proficient readers correct a higher percentage of miscues than less proficient readers?

Findings. Table 4 presents the total miscues, the percentage of corrected miscues, and the miscues resulting in meaning change for each reader in the proficient group.

Table 4

The Proficient Readers' Total Miscues, the Percentage of Corrected Miscues, and the Percentage of Miscues Resulting in Meaning Change

Student	Total Miscues	Percentage of Corrected Miscues	Percentage of Miscues Resulting in Meaning Change
A	43	28	35
B	49	39	37
C	34	18	29
D	27	63	30
E	59	24	26

The proficient readers corrected a higher percentage of miscues than did the less proficient readers. The number of miscues corrected by the proficient readers ranged from 18 to 63%, with a mean of 34%. Table 5 presents the total miscues, the percentage of corrected miscues, and the miscues resulting in meaning change for the less proficient group. The miscues corrected by the less proficient readers ranged from 16 to 49%, with a mean of 29%.

Table 5

The Less Proficient Readers' Total Miscues, the Percentage of Corrected Miscues, and the Percentage of Miscues Resulting in Meaning Change

Student	Total Miscues	Percentage of Corrected Miscues	Percentage of Miscues Resulting in Meaning Change
F	60	33	43
G	69	16	33
H	61	18	41
I	47	49	45
J	57	27	39

Question 7. Do less proficient readers produce a higher percentage of miscues that result in meaning change than more proficient readers?

Findings. Table 6 indicates the means for total miscues, corrected miscues, and miscues resulting in meaning change for the proficient and less proficient readers.

Table 6

Proficient and Less Proficient Readers' Mean Percentages For Total Miscues, Corrected Miscues, and Miscues Resulting in Meaning Change

	Total Miscues	Corrected Miscues	Miscues Resulting in Meaning Change
Proficient	42	34	33
Less Proficient	57	29	40

The results indicate that less proficient readers produce a higher number of miscues that result in meaning change than do the proficient readers. A range of 26 to 37% of the miscues produced by the proficient readers resulted in a meaning change, with a mean of 31%. The findings indicate that a range of 33 to 45% of the less proficient readers' miscues resulted in a change in meaning, with a mean of 40%.

Question 8. Do less proficient readers correct a higher percentage of semantically acceptable miscues than proficient readers?

Findings. The readers in the proficient group corrected a slightly higher percentage of semantically acceptable miscues than did the readers in the less proficient group. This was not expected. The proficient readers corrected 23% of their miscues which were semantically acceptable while the less proficient readers corrected 22%.

A further examination of the miscue types for both groups indicated that the readers in the less proficient

group produced slightly more nonsense miscues than did the proficient readers. Five percent of the less proficient readers' miscues were nonsense words, while the percentage of nonsense miscues for the proficient group of readers was 3%. Another slight difference between the two groups of readers is in the number of omission miscues. The percentage of omissions for the proficient readers was 11%, and for less proficient readers, 12%. The readers in the proficient group produced an average of 42.4 miscues, while those in the less proficient group produced an average of 57.2.

Questions 6, 7, and 8 of the Reading Miscue Inventory (1972) "are interrelated to produce patterns which give insight into how concerned the reader is that his oral reading sounds like language" (p. 71). The patterns indicate the reader's strength in using the syntactic and semantic cueing systems. In the "weaknesses in grammatical relationships" column the less proficient readers had a mean of 38%, while the proficient readers had a mean of 29.4%. The less proficient readers were less concerned that oral reading should sound like language.

Similarly, questions 6, 8, and 9 are interrelated to produce a pattern which indicates the extent of meaning loss. The pattern indicates whether there is no loss in meaning, partial loss, or total loss of meaning caused by the miscues.

Table 7 presents the percentage of miscues causing no loss, partial loss, and total loss in comprehension for readers within the proficient group. The proficient readers produced a mean of 59% miscues which resulted in no loss in comprehension, with a range of 47 to 81%.

Table 7

Percentage of Proficient Readers' Miscues Resulting in No Loss, Partial Loss, and Total Loss in Comprehension

Student	No Loss in Comprehension	Partial Loss in Comprehension	Total Loss in Comprehension
A	49	16	35
B	65	19	16
C	47	24	29
D	81	15	4
E	53	23	24

Table 8 presents the percentage of miscues causing no loss, partial loss, and total loss in comprehension for readers within the less proficient group. The less proficient readers produced a mean of 52% miscues which resulted in no loss in comprehension, with a range of 45 to 66%.

Table 9 indicates the means of miscues causing no loss, partial loss, and total loss in comprehension by both groups. More of the less proficient readers' miscues resulted in some loss of meaning. The comprehension patterns indicated that the proficient readers had a mean of 22% total loss in comprehension, with a range of 4 to 35%.

while the less proficient readers had a mean of 27% in total loss of comprehension, and a range of 15 to 35%.

Table 8

Percentage of Less Proficient Readers' Miscues Resulting in No Loss, Partial Loss, and Total Loss in Comprehension

Student	No Loss in Comprehension	Partial Loss in Comprehension	Total Loss in Comprehension
F	50	15	35
G	51	23	26
H	48	19	33
I	66	19	15
J	45	28	27

Table 9

Proficient and Less Proficient Readers' Mean Percentages For No Loss, Partial Loss, and Total Loss in Comprehension

	No Loss in Comprehension	Partial Loss in Comprehension	Total Loss in Comprehension
Proficient	58	19	22
Less Proficient	52	21	27

Based on the child's retelling of the story he/she read, and his/her answers to questions posed by the writer, a retelling score was assigned to each child. The retelling scores for both the proficient and the less proficient group varied considerably--from 20 to 45.5 for the proficient group, and from 14 to 37 for the less proficient group.

The proficient readers' mean retelling score was 27%. The less proficient readers produced a mean retelling score of 22%. It is interesting to note that the two readers in the proficient group of readers who obtained the highest retelling scores used the syntactic and semantic cueing systems to a somewhat greater degree than the graphophonic cueing system. The readers in the less proficient group either relied more heavily on graphophonic cues or appeared to use the three systems equally.

Summary

The findings indicate that all readers in this study use the three cueing systems which are at their disposal, but they vary in the extent to which each system is utilized. Less proficient readers tend to rely more heavily on the graphophonic system than do proficient readers. Proficient readers produce more syntactically and semantically acceptable miscues. Proficient readers correct a greater proportion of their miscues, and they produce fewer miscues which cause a change in meaning than do less proficient readers. The greatest differences in the two groups in this study are in the percentage of semantically and syntactically acceptable miscues that they produced.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to summarize the study, to present the conclusions based on the findings of the study, and to discuss the implications for the teaching of reading as they relate to these findings. Finally, it will offer recommendations for future research.

Summary

The intention of this study was to examine the similarities and differences in the ways in which proficient and less proficient readers utilize the three cueing systems of language (i.e., the graphophonic, the syntactic, and the semantic) that are available to them. Forty-one students in two grade four classes were selected to read orally the story "Space Pet" selected from the Reading Miscue Inventory (1972). Following the reading of the story each child was asked to retell as much of the story as possible. The writer followed along with a protocol of the story, noting miscues as prescribed in the manual of Reading Miscue Inventory.

The reading and retelling of the story were audiotaped so that the writer could later complete an in-depth analysis of each reader's miscues. During the 3 week period in which the writer obtained the samples of oral

reading from the students, the Gates-MacGinitie Reading Tests, Survey D, Form 1 (1968) was administered to the students by the classroom teachers. The students whose comprehension scores fell between 4.2 and 4.7 and between 4.9 and 5.4 were selected for the study. The five students with reading scores between 4.9 and 5.4 were considered the proficient readers, and the five with scores between 4.2 and 4.7, the less proficient readers.

The findings indicated that both proficient and less proficient readers utilized the cueing systems, but they did not utilize them equally. The less proficient group of readers indicated a heavier reliance on the graphophonic system than did the proficient readers. The mean percentages, however, indicated that both groups of readers used the graphophonic cueing system more extensively than either the syntactic or the semantic system. Both groups appeared to have good control of the syntactic structure of the language. The proficient readers produced more miscues which were semantically acceptable and less disruptive of meaning. The less proficient readers tended to ignore a greater number of miscues which disrupted meaning, and rather than regress and correct a miscue, they tended to ignore it, at least orally, and continued to read on.

Conclusions and Discussion

1. Proficient and less proficient readers utilize the three cueing systems when reading. Tables 1 and 2 present the extent of the two groups' reliance on the

graphophonic, syntactic, and semantic cueing systems. K. Goodman (1965) and McMullin (1980) found evidence to support the contention that children use cues other than graphic ones when reading. Both these studies found that children were able to read more words in context than in isolation, because when reading in context they had additional cues. A study by [redacted]oodman and C. Burke (1968) which analyzed the miscues of fourth- and fifth-grade proficient readers verified the simultaneous use by readers of the three systems. Marsden's (1979) study of kindergarten children revealed that these early readers utilized all three cueing systems efficiently. The results of studies by King (1978) and Guzzetti (1982) of readers of differing abilities indicated that both these groups of readers were able to utilize and integrate information from the available cueing systems.

2. All readers do not use the systems equally. In a study of average and slow readers, Y. Goodman (1971) identified two major differences existing between average and slow readers. One of these differences was the "average readers' ability to emphasize one strategy to a greater extent than the others but at the same time keep all the strategies operating together" (p. 77).

K. Goodman and C. Burke (1973) concluded from their study that readers of different proficiency levels used the same process, but the less proficient readers used more graphic, syntactic, and semantic information than necessary, causing a loss in meaning.

The proficient readers in this study appeared to use the three cueing systems more consistently than the less proficient readers. The mean of the proficient readers' miscues with a high graphic similarity to the expected response was 55%, and the mean of their miscues indicating that they were influenced by the syntactic constraints of the language was 51%. More than one-third (mean score of 38) of the proficient readers' miscues were semantically appropriate. The less proficient readers utilized the graphophonic cues more than the proficient readers. The mean of the less proficient readers' miscues displaying a high graphic similarity was 62%. In this group the mean of miscues violating the syntactic structure of language was 50%, and the mean of semantically appropriate miscues was 29%. The less proficient readers appeared to have placed twice as much reliance on graphic cues as on semantic cues. It would appear that they were far more concerned with word identification, using mainly graphic cues, than they were with reading for meaning. Sollenne (1976) found that the two groups used in her study utilized the cueing systems differently while reading. She examined older less proficient readers and younger proficient readers. The older less proficient readers relied more heavily on the semantic cueing system, while the younger readers seemed to rely on the graphophonic cueing system. The fact that older readers had had more experience and a wider conceptual background might have contributed to their reliance on semantic cues.

3. Less proficient readers produce miscues having a higher graphophonemic proximity to the expected response than do proficient readers. The data revealed that the less proficient readers in this study produced more miscues with a high graphic similarity to the text stimulus than did the proficient readers. A tabulation of the miscues with no graphic similarity indicated that the proficient group had a mean of 13%, and the less proficient group a mean of 14%. The less proficient readers produced more miscues with a high sound similarity score than did the proficient readers. The mean score for a high sound similarity was lower than the high graphic similarity score for both groups. According to Young (1978), miscues which consistently reflect a higher graphic than sound similarity score

> may be partially accounted for by the irregularly-spelled words which do not follow the common generalizations of sound to symbol correspondence. For example, the substitution of "through" (Oroo) for "though" (Do) would have a high graphic similarity but no sound similarity. (p. 15)

For both groups of readers in this study the graphic proximity was higher than the sound proximity score for all but one reader in the less proficient group. The groups in Jensen's (1976) study also produced miscues with higher graphic similarity than sound similarity. She suggested:

> When operating on graphic and phonemic cues only, the reader must move through the graphic symbols to reach the phonemic realization. For this reason, the miscues are more likely to look like the expected response than to sound like them. (p. 13)

Poor readers in Hu-Pei Au's (1977) study produced more miscues that indicated reliance on the graphophonic system than did good readers. In a 4-year study by K. Goodman and C. Burke (1968) the data indicated that the less proficient readers tended to produce more graphically similar miscues than the proficient readers, whose miscues tended more to integrate the syntactic and semantic systems with the graphic input, resulting in more complex miscues. Other studies have found conflicting results. Weber (1969), in an analysis of oral reading errors of first graders, found that the better readers produced miscues which were graphically similar to the text. Top and middle ability readers in a study conducted by Biemiller (1970) showed a larger percentage of graphic substitutions than the lower ability group. Brody's (1973) study of proficient and remedial readers ranging from third to sixth graders found that the proficient group showed greater strength than the remedial group in the use of graphic and phonemic cues. Similar results were reported by Eagan (1976), who found that the high readers in first grade used the most graphic information, the average readers used less, and the low readers used the least graphic information from whole words.

4. Proficient readers produce a higher number of syntactically acceptable miscues than less proficient readers. In this study, the mean of the proficient readers' miscues resulting in totally grammatically acceptable structures was

51% compared to a mean of 42% for the less proficient group.

Each miscue was coded in terms of its grammatical function and that of the expected response. A tabulation of the miscues indicated that 72% of the proficient group's and 58% of the less proficient group's miscues were of the same grammatical function as the expected responses.

By the time a child begins to read he has considerable competency in the syntax of his spoken language. Jensen (1972) suggested that since the beginning reader has acquired this competency in the grammatical rules of the spoken language, which are the same in the written language, the teacher ought to utilize this competency in the teaching of reading. Shearer (1982), in a study of good and poor readers, revealed that the good readers produced a higher mean score of syntactically appropriate errors than the poor group. In an analysis of good and poor fourth-grade readers, Misanchuck (1978) found that the good readers produced a greater mean of miscues that were syntactically acceptable than did the poor readers. Other studies which support the findings of this study were those conducted by Jensen (1972) and Brody (1973). In the above studies, the finding that proficient readers produced more syntactically acceptable miscues than less proficient readers indicates that proficient readers are better able to predict and anticipate the grammatical structure of the text. Clay (1968, 1969), Sollenne (1976), and Weber (1970), however

found that good and poor readers did not differ in utilizing syntactic information.

Proficient readers produce a higher number of semantically acceptable miscues than less proficient readers. Miscues are coded separately for syntactic and semantic acceptability. A miscue can be syntactically acceptable but not semantically acceptable. For example, if a reader produces the miscue gran for "He gave the horse grain," he/she has produced a miscue which results in a grammatically acceptable structure, but since the miscue is a nonsense word the reader has not produced a sentence which is semantically acceptable. In this study, the mean of the proficient readers' semantically acceptable miscues was 38%, while the less proficient group's mean for semantically acceptable miscues was 29%. While the total number of miscues which were semantically acceptable within the passage was considerably less than those graphically/phonemically similar, the number of miscues which were totally and/or partially semantically acceptable ranged from 70 to 80% for both groups. This indicates that 20 to 30% of the group's miscues were totally semantically unacceptable.

Readers produce a greater percentage of totally semantically unacceptable miscues than syntactically unacceptable miscues (K. Goodman & C. Burke, 1973). In this study, 19% of the proficient readers' miscues were totally semantically unacceptable, and 12% were syntactically inappropriate. Twenty-nine percent of the less

proficient readers' miscues were semantically unacceptable, and 18% syntactically unacceptable. There is a wide range between the two categories for the less proficient readers (18 to 29%) than for the proficient readers (12 to 19%). The reader in the proficient group with the highest percentage of totally semantically unacceptable miscues also had the lowest retelling score.

Other studies which found that better readers tended not to violate semantic constraints as much as poorer readers are those conducted by Jensen (1972), Y. Goodman (1971), and Hu-Pei Au (1977). Other studies, however, contradict claims that good readers utilize contextual information better than poor readers (Weber, 1969; Biemiller, 1970). Y. Goodman (1971) stated:

> When miscues are semantically related they suggest good reading strategy since the reader is obviously reading orally something which he has already processed in a meaningful way and he is not producing miscues randomly. Synonyms, substitutions and other semantically related substitutions in reading should be an indication that the reader is reading for meaning at least at that point in the text. (p. 48)

6. Less proficient readers produce a higher precentage of miscues which result in meaning change. The mean of the proficient readers' miscues which disrupted the meaning of the passage was 33% compared to a mean of 40% for the less proficient readers. Jensen (1972) found that the proficient readers in her study were more successful at producing miscues which retained meaning than were the weak readers. In

a study of readers of varying proficiency levels K. Goodman and C. Burke (1973) tabulated the percentages of semantically acceptable miscues which altered meaning. They found that both the low and high groups among the higher grades tended to produce miscues which caused less semantic change. Proficiency as well as grade level related to the percentage of miscues causing meaning change, with the proficient readers having lower percentages. In a study of fourth- and fifth-grade proficient readers, K. Goodman and C. Burke (1968) found that 59% of these readers' miscues resulted in changed meaning.

7. Proficient readers correct a higher percentage of miscues than less proficient readers. Self-correction occurs when the reader realizes he has made a response which differs from the text. Correction is an important element of the reading process. It is an indication that the reader is aware that he has made an error, he feels the need to correct it, and he is able to reprocess the information and make the correction (K. Goodman & C. Burke, 1973). The proficient readers in this study corrected a higher percentage of miscues than the less proficient readers. The percentage of corrections ranged from 18 to 63%. With the exception of one student, generally the miscues corrected were those which disrupted meaning. Student D, however, corrected 63% of her miscues of which only 33% resulted in a change in meaning. The score in the over-correction column for this

reader was 30%. It appears that even though this reader relied less heavily on graphophonic cues than on syntactic and semantic cues, she obviously equates reading with producing the exact responses that are in the text. In this study, the mean score for the miscues corrected was 34% for the proficient group, and 29% for the less proficient group.

The writer of this study tabulated for each group the miscues which whether totally or partially syntactically unacceptable were corrected. The proficient readers corrected more miscues which violated the syntactic constraints of the whole sentence than did the less proficient readers. The groups corrected 40 and 33%, respectively, of totally/partially unacceptable miscues. The miscues semantically unacceptable but corrected were tabulated for each group. The proficient readers were more aware of disrupted meaning. They corrected 39% of their miscues which were totally/partially unacceptable, while the less proficient readers corrected 32% of the miscues in this category. Both groups showed a slightly greater awareness of violation of the syntactic constraints than of the semantic. Jensen (1972) found similar results among proficient and less proficient readers.

Recht (1976), in a research study involving children from grades two to six, analyzed their successfully corrected miscues and compared them with comprehension, grade level, ability, and the total number of miscues. She found

that as the children became more proficient at reading they exhibited well developed correction strategies. They corrected a large percentage of their miscues, and those readers who comprehended the text utilized the correction strategy consistently. According to Recht, "this suggested their awareness of miscues which distorted structure or meaning" (p. 634). She suggested that children should be encouraged to regress and attempt to correct when what they are reading does not make sense. Self-correction is not only a learning experience for the reader but it also provides information to the teacher about how the child is interacting with print, and it provides insight into the reading process. Jensen (1972) emphasized the need for children to develop the skill of correction. She stated:

> Correction strategy is an extremely important factor separating proficient from weaker readers. But correction reveals a deeper underlying competence, the ability to deal with reading as language. Proficient readers process written language with the knowledge that reading must sound like language and must have meaning. When a miscue disrupts either grammar or meaning, it is likely to be corrected by the good reader. (p. 138)

8. Less proficient readers do not correct a higher percentage of semantically acceptable miscues than proficient readers. The miscues in this study were examined to determine which group of readers corrected a higher percentage of semantically acceptable miscues. It was expected that the less proficient would correct more of this type of miscue. The data revealed the opposite. The proficient group corrected a slightly higher percentage of miscues which were

semantically acceptable. Student D's over-correcting 30% of her acceptable miscues most likely contributed to this finding.

While the reading range of the two groups of readers examined in this study was relatively small (i.e, from 6 months above grade level to 6 months below grade level), similarities and differences exist in their use of the cueing systems and the strategies which they use. The proficient readers use less graphophonic cues and more syntactic and semantic cues than the less proficient readers. Proficient readers are more concerned that reading should sound like language, and they tend to be more aware of semantic change. Proficient readers produce more miscues resulting in no loss in comprehension. They regress more frequently to correct where there is a loss of or a change in meaning. Both groups are more sensitive to the syntactic than the semantic constraints of language.

Implications for the Teaching of Reading

A psycholinguistic view of reading is one that considers reading to be an interaction of thought and language. The emphasis in reading is placed on meaning rather than on graphophonic processing. Psycholinguists focus more on the process of reading than on specific procedures and methods of instruction. They are concerned about what the child is doing when he is reading and what information he utilizes during the reading act (Melvin, 1979). By the time a child enters school and is placed in a beginning reading program,

he/she has already mastered much of the basics needed to become a fluent reader. The child brings to the reading act a firm knowledge of the syntax of the language. He/she intuitively knows that words take on a certain order if an idea is to be communicated. Most children use correct tenses in their oral language and can apply correct word endings. They have a feel for language and can recognize when it deviates from the normal language patterns. Children enter school with varying experiential backgrounds. The experiences which some children bring are more relative to the concepts and story ideas presented in basal readers than are those of other children. These children have an added advantage over children who have not had the same kind of experiences. Other children, while they may not have had the type of experiences which are related to basal reader stories, do, however, have an experiential background which they, too, bring to the reading process and which teachers must utilize. Children who are fortunate enough to have had books read to them already may know that reading is a left to right process. Indeed, some children are already reading without having received any formal reading instruction.

Children will only become fluent readers by reading. Teachers, perhaps, ought to keep this uppermost in their minds. Children need to be provided with a variety of adequate, interesting, and appealing reading materials which match their reading abilities. But more importantly they need to be provided enough time in busy classroom

schedules to read for sheer enjoyment. Children who do not like to read need to be encouraged to do so, and a healthy attitude towards reading needs to be developed. Smith (1978) considered it the primary function of reading teachers "to ensure that children have adequate opportunity to read" (p. 187).

Teachers need to ensure that children have an understanding of what reading is. From the writer's experience, all too often a child's concept of reading is to be able to successfully identify or say all of the words. They seem to fail to realize that underlying the print there is an intended message, and that the purpose of reading is to bring meaning to the print. K. Goodman (1982) confirmed this when he stated, "The reader starts with a graphic display, printed or handwritten, and if he is successful, he ends with meaning, a reconstruction of the writer's message" (p. 20). Instructional materials need to be matched to the child's reading ability in order to avoid frustration. Both the instructional and independent reading material should contain written language structures similar to the child's own language in order that what the child reads, sounds like language.

K. Goodman and C. Burke (1973) suggested that the miscue "provides a window on the reading process" (p. 319). By examining a child's miscues the teacher can gain insight into the reading process and determine how the reader utilizes the three cueing systems and the reading

strategies he/she has acquired. All three cueing systems are important and children need to become skilled in using them simultaneously rather than to rely too heavily upon one of them.

All readers do not use the cueing systems equally. A reader whose miscues indicate that he/she is already depending primarily on graphophonic cues and not making semantically and/or syntactically constrained miscues does not need instruction in utilizing the graphophonic system. For this child, instruction needs to focus on enabling him/her to become more aware of the syntactic and semantic constraints of language structure. Emphasis must be placed on meaning.

The teacher can help the child understand that proficient readers make miscues as well, and that not all of one's miscues need to be corrected. Children need to realize that only miscues which disrupt meaning need correction. Teachers can encourage children to use the self-correction strategy to sample, predict, test, and confirm. They must avoid the urge to interject in order to provide the child with the needed word. Self-correction is an important reading strategy which readers need to develop and use.

Based on research findings, Allen (1976) offered these recommendations to reading teachers:

1. Children bring strengths to the reading task. The teacher needs to emphasize these. Children are able

to use oral language skills competently and "reading (and writing) should be regarded as a further extension of this development, not as a complete new set of communication skills" (p. 111).

2. Provide children with ample opportunities for reading. It is possible for children to have very little time for actual reading if a great deal of time is spent on word lists and teaching skills in isolation. Help children develop strategies to deal with reading problems.
3. Emphasize strategies rather than skills. Help children develop meaning seeking strategies whereby they do not lose meaning when they meet difficult words. "Two overriding strategies that all readers need to employ are the constant asking of two questions: Does what I read sound right? And does it make sense?" (p. 112).

Young (1978), in suggesting ways to foster effective learning strategies, suggested:

> Helping learners improve their reading strategies, then, should be meaning-oriented. Instruction may provide either greater attention to use of context or emphasis on graphic cues within a contextual setting, depending on the learner's pattern of miscues. The teacher must select materials which are meaningful to the readers and, therefore, predictable and provide instruction which promotes confidence and a willingness to make predictions. (p. 23)

Children will learn to read by reading. They ought to be exposed to a wide variety of children's literature and encouraged to become involved in independent reading. Reading material that is relevant and meaningful must be

provided for them. Most schools today have a central library where children may obtain books. In addition to this source of reading materials, the classroom needs to be equipped with a supply of books to which the children have easy access. Generally, children, especially if they are reluctant readers, tend to be attracted more to paperbacks. A ready supply of these could be placed on the classroom bookshelves. This is not to suggest that the children not use the school library. Workshops can be organized to have a team consisting of parents, teachers, and the school librarian--if there is one--become involved in getting children "turned on" to reading. Parent groups can be encouraged to allocate any available funds towards library materials.

Children have at their disposal three sources of information--graphophonic, syntactic, and semantic. Proficient readers use only as much information as is necessary to obtain meaning. Teachers need to help children develop and improve their reading strategies, so that they are able to use the cueing systems efficiently and effectively. Teachers also need to encourage readers to take risks when they encounter difficulties, and to convey to them that the emphasis in reading is on meaning rather than on exact word identification.

Recommendations for Further Research

1. A similar study should be carried out with a larger sample than that used in this study.
2. This study used groups of readers with a narrow range in reading abilities (i.e., 6 months below grade level and 6 months above grade level). It is recommended that a study involving groups with a wider range in reading ability be carried out. The wider range in ability would identify greater similarities and differences in the use of the three cueing systems.
3. The miscues of fourth-grade readers were analyzed. Readers of a different grade level might be analyzed to determine similarities and differences in their use of the cueing systems.
4. The sample used in this study was from a rural area in Newfoundland. A similar sample of fourth graders from a larger urban area could be studied.
5. A longitudinal study of proficient and less proficient readers at fourth-grade level and again at sixth- or seventh-grade level might identify whether or not changes occur in the use of the cueing systems as students mature.

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APPENDIX

LETTER REQUESTING CONSENT OF PARENTS

Portugal Cove
Newfoundland
April 14, 1980

Dear

I am presently involved in completing the requirements for the Master of Education degree from Memorial University. The project on which I am working involves a study of children's oral reading and the strategies which they use in this process.

Over the next eight or nine weeks I would like to gather data by tape recording a sample reading from each of the students in the Grade Four Classes at St. Lawrence School, Portugal Cove. The data gathered will not be used on an individual basis but rather will be compiled on a group basis. Names of students will not be used in the study. However, information collected may be of benefit to future classroom instruction for the students. This matter has been discussed with the school principal, Mr. Hobbs, and he has granted me permission to obtain the data provided that you are in agreement.

Some of the parents are aware that I am on the staff at St. Lawrence School as a remedial reading teacher. I would greatly appreciate your cooperation in this matter. If you have no objections to my using a sample of _____ reading, would you please place your signature at the bottom of this letter and return it to me.

Yours sincerely,

(Sgd.) Kathryn Billard

(Mrs.) Kathryn Billard

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(Parent's Signature)