

THE EFFECT OF REPEATED ORAL READINGS AT INSTRUCTIONAL
AND FRUSTRATION LEVELS ON READING PERFORMANCE
OF THIRD GRADE DEVELOPMENTAL READERS

By

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CHAPTER I

INTRODUCTION

The informal reading inventory (I.R.I.) has long been recognized as an invaluable instrument in both reading classroom and clinic. Its use has been advocated by reading authorities as a credible diagnostic tool which can readily be used to place students in instructional materials and to help ascertain specific oral and/or silent reading skill deficiencies in need of remediation. Data obtained from the administration of an I.R.I. is considered valid and reliable because materials utilized are similar to those used in the actual reading lesson.

Although the use of the informal reading inventory has been recommended for over 50 years, several questions regarding procedural considerations remain unresolved. A discrepancy exists between the procedure followed in teaching a reading lesson and that used in the administration of an I.R.I. In a regular reading lesson, it is suggested that silent reading should precede oral reading. However, standard diagnostic procedures using informal reading inventories call for the student to read a selection orally at sight. Harris (1970) suggests that this procedure must be followed, otherwise many of the mispronunciations and hesitations made would be eliminated upon rereading in diagnosis. Powell (1973), on the other hand, states that the uniqueness of freshly presented material to be read adds to the uncertainty faced

by the reader. Therefore, errors made under such conditions would then not necessarily reflect particular decoding inabilities of the student. Smith (1973) says that often readers have to understand the passage read before they can successfully decode many words. The results of a student reading such material orally at sight, therefore, may not truly be indicative of his reading capabilities. This question is far from being resolved. In discussing the general administrative procedure used with the I.R.I., Beldin (1970) questions:

...Should it employ oral sight reading or oral rereading the same material for a different purpose...? Certainly one could argue that the latter procedure more closely resembles the accepted procedure found in the guided reading lesson of most basal readers; we have reason to suspect that this approach would give a generally higher oral reading performance by most children. Is this valid? What is the relation of testing procedure to criteria? (pp. 82-83)

No research is presently available that specifically answers the aforementioned questions. The purpose of this study is to determine what oral reading error trends result from repeated readings of the same passage to produce a more complete picture of the reading process for students under varying administrative procedures.

Need

The literature is replete with studies involving analysis of oral reading behavior (Weber, 1968). Research has provided information regarding the change in the pattern of oral reading errors and general oral reading skills as proficiency in reading is developed. Although comparisons across studies are difficult because of the differing error classifications used, the kinds of readers studied, the tests of materials used and the relative difficulty of the test materials employed, this research is suggestive of generally consistent profiles

of reading behavior at each level of reader skill development (Ilg and Ames, 1950; Schale, 1964; Madden and Pratt, 1941; Russell, 1973). These profiles, however, have traditionally been based on the accepted diagnostic practice of one oral reading at sight and therefore may not reflect reading behavior in a directed reading lesson in which two readings of the same passage is recommended. As Spache (1973) points out, however: "There is presently no data available to tell us which profile of errors reflects the true needs of pupils, no criterion to indicate how our pupils compare with the 'average' reading task" (p. 383). No attempt has been found to profile and compare performances of readers on two readings of the same passage with respect to the stability of error patterns, error rate and type change and their effect on establishment of performance levels, ability to utilize context, and rate of reading.

The relative stability of these error patterns within any developmental stage of reading has not been investigated. It is not known whether these error patterns are reflections of the words encountered, the difficulty of the passage, or are representative of the strategies he used in reading. A study of the repetition of errors after a practice effect should provide some information regarding this dilemma.

Oral reading error type and incidence of error have been shown to change as a function of difficulty of the material (Christenson, 1966; Bell, 1973; Berends, 1971; Killgallon, 1942; Schummers, 1956). However, the extent to which rereading as suggested in a directed reading lesson will alter error production remains "a matter for speculation" (Powell, 1970). It may well be as Powell suggests that a reduction which is expected to occur upon rereading will warrant a re-examination of scoring criteria used with informal reading inventories.

passages at both their instructional and frustration levels. A profile of reader behavior was developed in an attempt to answer the following questions:

1. To what extent are the error patterns found on each of the repeated readings of the same passage stable?
2. Is there a change in the incidence of errors upon rereading of the passage? What influence does such a change have on the establishment of instructional levels?
3. To what extent does rereading affect the ability of the reader to use context clues in reading?
4. What effect does rereading of a passage have on rate of reading?

Hypotheses

A statistical determination of the following hypotheses was made. Each is stated in the null form:

1. There is no significant difference between the error pattern on the first reading of an extended oral passage at instructional level as compared to the error pattern found on a second reading of the same passage.
2. There is no significant difference between the error pattern made on the first reading of an extended oral passage at frustration level as compared with the error pattern found on the second reading of an extended oral passage at frustration level.
3. There is no significant difference between the error pattern made on the first reading of an extended oral passage at instructional level as compared to the error pattern incurred on the second reading of an extended oral passage at frustration level.

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 ed oral passage oral passage with compared with the rate
 ding the reading the same passage for a second time.

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Definition of Definition of Definition of Terms

Experimental Readers are defined as students in the elementary school
 o students who are in the level between 2.75 and
 level 2.5 according to the Read Standard Reading
 A minimum of 30 students of 30 students of 30 students of plus
 5 years old in the range of the range of performance
 functional instructional level by the performance performance
 and Read Standard Reading the word
 criteria of 70 percent and a criteria
 70 percent of the students meeting this criteria
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Instructional level reading level on the
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Instruction the rate of the reading of the same passage.

Frustration Level refers to the graded reading level on the Extended Oral Passage on which the reader falls below the word recognition criterion of 90 percent or less. Frustration I refers to the first reading of an extended oral passage at frustration level. Frustration II refers to the second reading of the same passage.

Error, miscue, or word recognition error refers to any oral response which deviates from the written stimuli in oral reading. The terms are used interchangeably and imply no judgment of "wrongness" or "badness" (Berends, 1971).

B-S-R Error Analysis refers to an error classification system synthesizing the sound-symbol approach of Monroe (1928) and the visual-perceptual approach of Gates (1947). A complete description is given in Chapter III.

Minor Error Type refers to a specific kind of error in the B-S-R Error Analysis (e.g., $+$ ~~$+$~~ , addition, etc.) and is a subdivision of a major error category.

Major Error Category refers to a class or grouping of error types. The five major categories on the B-S-R Error Analysis are: visual perception, visual auditory, refusals, behavioral, structural analysis.

Extended Oral Passage refers to a passage of at least 175 words read orally by the subject. The extended readings were first used by Stuever (1969) in her study and establish the passage length at which the rate of errors becomes stabilized. The readability of the passages were established by use of the Spache formula (1953) and compare in difficulty with equivalent passages on the Standard Reading Inventory.

Context cues are those aids to word recognition that come from an understanding of meaning and syntactic regularities of language.

Delimitations

Scope of the Study

This investigation included an analysis of the oral reading errors made by third grade developmental readers on first and second readings of extended oral passages at both instruction and frustration levels. Comparisons of the resulting error patterns, error rate, reading rate, and ability to utilize context were made on each of the four readings. Comparisons were made between the 23 kinds of possible errors (B-S-R Analysis System) on each of the readings.

Twenty-six subjects were selected for this investigation from students reading developmentally at the third grade level. The students were chosen from approximately 100 screened by the Standard Reading Inventory in Albuquerque, New Mexico during the 1973-74 school year.

Limitations of the Study

This study is limited to developmental third grade students from Hodgins Elementary School in Albuquerque, New Mexico.

The oral reading tests used reflect only a sample of the reading tests available. Different results may have been found had different tests been used.

Assumptions

It is assumed that the tests used in this investigation accurately measure the factors they are designed to measure and are pertinent to this study.

It is assumed that the use of oral reading errors to establish levels of reading performance is valid and that the number of errors made by a student is indicative of the relative difficulty of the material for him.

It is assumed that each word in a passage provides the reader with an opportunity to make any one of the types of errors to be analyzed and that the errors are representative of his actual reading behavior.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

A search of the literature revealed few studies concerned with the effect of varying testing procedures on oral reading behavior. This review will be confined to those studies investigating the effect of rereading on oral reading performance.

Rereading

Kasdon (1967) randomly selected a sample of 35 middle-class fourth, fifth and sixth grade students for his rereading study. Each student read two equivalent passages from the Spache Diagnostic Reading Scales, one orally at sight and the other silently then orally. Only those students reaching instructional level within the limits of the Diagnostic Reading Scales were included in the study. Each student served as his own control.

Although the median number of errors varied in the two treatments (4.6 in the oral-only group, O-C, and 4.0 in the silent-oral group, S-O-C), the difference was not found to be statistically significant. However, the silent-then oral readings (S-O-C) did result in higher instructional levels attained. This difference (significant at the .01 level) was attributed to the practice effect of the silent reading. A

mean reading rate of 111 words per minute was found for the oral-only readings (O-C) and a mean of 126 words per minute was obtained on the silent-then-oral readings. The difference between the two treatments was significant at the .01 level

In this preliminary study, Kasdon found that two readings of the same passage did result in higher comprehension scores obtained and a faster reading rate. Word recognition stayed essentially the same.

In a follow-up study, Kasdon (1969) used two 5 percent random samples of ninth graders from two secondary schools in ghetto areas of two boroughs in New York City. Using forms B and C of the Gray Oral Reading Test along with comprehension questions developed by Bormuth, two groups of 23 students were tested. Sample group one was administered the test according to instructions in the manual; that is, only oral reading of the passage at sight. Sample group two was allowed to read the test passage silently first, then orally. All subjects began reading 3 to 4 levels below their grade placement and continued until they made 7 or more oral errors on two successive paragraphs. Dialect interference was not recorded as scoreable errors.

Four hypotheses were tested:

- (1) there would be no difference between mean scores on the Gray Oral Reading Test for the two groups,
- (2) there would be no difference between mean comprehension scores between the two groups,
- (3) there would be no difference between the two groups in mean reading speed, and
- (4) there would be no difference in oral error types made by the two sample groups.

A t-ratio for independent samples was used to test the first three hypotheses. A Chi-square, testing a 50-50 hypothesis was used to analyze the eight-types of errors considered. A .05 level of significance was used in the study.

Although differences between mean scores of the two groups were found, the level of significance was less than the 20 percent level and so hypothesis one was accepted. The difference between the mean score on comprehension was significant at the .02 level and hypotheses two was rejected. There was no difference between the oral reading rates for both sample groups. Both read at approximately 111 words per minute.

The eight error types analyzed included: words aided, gross mispronunciations, partial mispronunciations, omissions, insertions, substitutions, repetitions, and inversions. Five error categories were significantly different between the two groups. These included categories in which the oral-at-sight group scored significantly fewer errors than the silent-then-oral reading group. These included gross mispronunciations, omissions, and insertions. The silent-oral group made significantly fewer errors in the partial mispronunciations, and repetitions categories.

Kasdon suggests that students seldom attempt to determine pronunciations of words while reading silently unless the unknown word interferes with their comprehension. Thus, in silent-then-oral (S-O-C) reading, pronunciation scores won't necessarily change although comprehension will improve.

Lowell (1970) questioned current diagnostic practices and the factors used in obtaining independent, instructional, and frustration

reading levels with informal inventories. Lowell felt that the practice of oral reading at sight is in conflict with established practice for reading instruction. In the research conducted, an eleven-year-old boy successively read a single 149 word passage five times. Error types analyzed included repetitions, substitutions, omissions, additions, and aided words. The boy made 22 errors while reading 60 words per minute on the first reading. Only half as many errors were made on the second reading (11 total) and the rate of reading was nearly half again as fast as the first reading. No change in reading rate or error production occurred on the third reading. On the fourth reading, a decrease in total number of errors from 11 to 6 was evidenced. Rate increased to 99 words per minute. No change was noted on the fifth reading.

Lowell concluded by raising the question as to which reading method could be used to determine performance levels. Depending on the method used, the child may have been placed in independent, instructional and frustration levels or all three.

Glenn (1971) used the Gilmore Oral Reading Test to study the effects of three testing techniques on literal comprehension and reading accuracy among second, third, and fourth graders. Sixty children at each of the grade levels were randomly assigned to one of the following treatments: (1) oral reading at sight (O-C), (2) silent-then-oral reading (S-O-C), and (3) silent reading-comprehension check-then oral reading (S-C-O). In treatments 1 and 2 the comprehension check followed the oral readings.

No difference in word recognition scores were found among the treatment groups at any of the grade levels. However, second graders

made significantly more word recognition errors than either third or fourth graders. At all three grade levels, a significantly lower comprehension score was attained among the silent reading-comprehension check-then oral reading group (S-C-O). Glenn concluded that the recommendations of silent reading preceding oral (S-O) in directed reading lessons was unfounded since this procedure had no influence on either the comprehension or the word recognition scores attained.

The two different treatment groups studied by Waynant (1972) included (1) oral at sight (O-C) and (2) silent-then oral reading (S-O-C). Variables tested included comprehension based on oral reading, oral reading rate, and types of oral reading errors. Thirty second graders and thirty fifth graders reading approximately at grade placement were randomly selected to take part in this study. Each student read from the Gilmore Oral Reading Test Forms C and D following the guidelines outlined in both treatments.

No significant differences were found in the oral reading accuracy scores or in the literal comprehension score between the oral-at-sight (O-C) and the silent-then-oral (S-O-C) group. It was determined that students' oral-following-silent reading rate (S-O-C) was significantly higher than that exhibited by the oral-at-sight (O-C) treatment. The rehearsal effect of silent-preceding-oral reading did appear to result in greater oral reading fluency. Waynant did note that silent-preceding-oral reading did result in improvement of reading accuracy and comprehension scores for some of the students.

Following up on suggestions made by Waynant for further study, Busboom (1974) examined the effect of four different treatments on reader behavior at both instructional and frustration levels. The

TABLE I

PERCENTAGE COMPARISON OF ERROR TYPES

Kasdon, 1970 Ninth Grade			Lowell, 1970 N=1				
	N=23 Oral	N=23 Silent-Oral	Reading 1	Reading 2	Reading 3	Reading 4	Reading 5
Substitution	(99)19.0%	(104)20.6%	(11)50.0%	(6)54.5%	(6)54.5%	(4)66.6%	(3)42.9%
Gross Mispronunciation	(80)15.3%	(120)23.7%					
Partial Mispronunciation	(169)32.5%	(137)27.0%					
Insertions	(13) 2.5%	(22) 4.3%					
Repetitions	(119)22.8%	(71)14.0%	(6)27.3%	(3)27.3%	(4)36.4%	(1)16.7%	(2)28.5%
Omissions	(26) 5.0%	(39) 7.6%	(1) 4.6%	(1) 9.1%	(1) 9.1%	(1)16.7%	(2)28.5%
Inversions	(6) 1.0%	-0-					
Words Aided	<u>(10) 1.9%</u>	<u>(13) 2.6%</u>	<u>(4)18.1%</u>	<u>(1) 9.1%</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
TOTALS	(522) X=22.7%	(506) X=22.1%	(22)	(11)	(11)	(6)	(7)

four groups included 1) silent-then oral reading followed by a comprehension check (S-O-C), 2) oral reading followed by an oral rereading followed by a comprehension check (O-O-C), 3) oral reading followed by a comprehension check followed by another oral reading of the same passage (O-C-O), and 4) silent followed by a comprehension check followed by an oral reading (S-C-O). Students from grades two through five were randomly assigned to treatment conditions and examiners and their reading performance was sampled by means of the Pupil Placement Test.

No significant differences were found in word recognition and comprehension scores as a function of treatment at instructional level for any of the four grade levels. At frustration level, it was found that, when the comprehension check was positioned between two readings, word-recognition score of the final reading was significantly lower than that obtained from two consecutive readings with no intervening comprehension check.

The diagnostic procedure suggested by Busboom as a result of her research call for an oral reading followed by a comprehension check. Teaching strategy proposed would involve one silent reading followed by a check for comprehension.

These results conflict with an earlier study conducted by Busboom (Blohowiak, 1971) in which she examined the effect of rereading in two fourth grade classrooms in schools with differing socio-economic populations. With each student serving as his own control, two different treatments were tested (oral-at sight, O-C, and silent-then oral reading, S-O-C).

Using a t-test to compare differences between group means at instructional level, both comprehension and word recognition scores

TABLE II

PERCENTAGE COMPARISON OF ERROR TYPES

	Glenn, 1970			Blohowiak, 1971 Fourth Grade			
	Grade 2	Grade 3	Grade 4	Instructional		Frustration	
				Oral	Silent-Oral	Oral	Silent-Oral
Substitution	(484) 31.4%	(393) 26.8%	28.6%	(96) 26.00%	(87) 23.50%	(196) 28.0%	(186) 27.0%
Mispronunciation	(288) 18.7%	(415) 28.3%	27.9%	(41) 11.00%	(43) 12.00%	(147) 21.0%	(160) 23.5%
Punctuation	(60) 3.9%	(119) 8.1%	(159) 9.7%				
Insertions	(26) 1.7%	(50) 3.4%	(78) 4.8%	(24) 6.50%	(18) 5.00%	(26) 4.0%	(34) 5.0%
Hesitations	(83) 5.4%	(54) 3.7%	(37) 2.3%				
Repetitions	(118) 7.6%	(176) 12.6%	(236) 14.4%	(90) 24.50%	(97) 26.50%	(130) 18.5%	(111) 16.5%
Omissions	(25) 1.7%	(68) 4.8%	(119) 7.6%	(43) 12.00%	(35) 10.00%	(56) 8.0%	(53) 8.0%
Self-corrections				(72) 20.00%	(84) 23.00%		
Words Aided	(457) 29.7%	(190) 13.0%	(75) 4.7%	(3) trace X=4.97%	(2) trace X=3.78%	(44) 5.0%	(33) 5.0%

reading rate of the good readers was significantly greater than that of the poor readers. The
of the number of errors made by the good readers (0-6) and the poor readers (0-6) was greater
in the good readers than in the poor readers. The number of errors made by the good readers was greater
at the instructional level.

Johnson (1974) and Johnson (1974) examined the effect of the effect
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at the instructional level.

TABLE III

PERCENTAGE COMPARISON OF ERROR TYPES

Christensen, 1974, Second Grade				
	1st Instruct.	2nd Instruct.	1st Frust.	2nd Frust.
Visual Perception	(121) 35.0%	(122) 37.0%	(182) 38.0%	(156) 32.5%
--+	(12) 10.0%	(11) 9.0%	(13) 7.0%	(17) 11.0%
++	(34) 28.0%	(27) 22.0%	(44) 24.2%	(43) 21.0%
+-	(6) 5.0%	(3) 2.5%	(13) 7.0%	(6) 3.8%
--+	(2) 1.6%	(1) .8%	(4) 2.2%	(3) 2.0%
+-	(21) 17.3%	(26) 21.0%	(37) 20.3%	(33) 21.0%
-+	(0) 0	(2) 1.6%	(0) 0	(1) .6%
---	(36) 29.8%	(41) 33.6%	(63) 34.6%	(49) 31.4%
Direction	(10) 8.3%	(11) 9.0%	(8) 4.4%	(4) 2.6%
Visual Auditory	(38) 11.0%	(32) 10.0%	(56) 12.0%	(56) 12.0%
C	(4) 10.6%	(4) 12.5%	(3) 5.4%	(7) 12.5%
CC	(0) 0	(0) 0	(3) 5.4%	(1) 1.8%
V	(8) 21.0%	(7) 22.0%	(8) 14.3%	(13) 23.2%
VV	(2) 5.0%	(4) 12.5%	(2) 3.6%	(1) 1.8%
CCVV	(24) 63.4%	(17) 56.3%	(40) 71.4%	(34) 60.7%
Refusals	(20) 6.0%	(7) 2.0%	(42) 9.0%	(36) 7.0%
Behavioral	(129) 37.0%	(136) 42.0%	(122) 25.0%	(153) 32.0%
Omissions	(25) 19.4%	(23) 17.0%	(27) 22.0%	(36) 23.5%
Additions	(9) 7.0%	(17) 12.5%	(15) 12.3%	(26) 23.6%
Repetition	(45) 35.0%	(41) 30.0%	(36) 29.5%	(32) 21.0%
Correction	(50) 38.0%	(56) 41.2%	(44) 36.0%	(59) 38.6%
Structural Analysis	(39) 11.0%	(27) 8.0%	(78) 16.0%	(79) 16.0%
TOTAL ERRORS	(347)	(324)	(480)	(480)

refusals at instructional level, fewer structural analysis and more additions at frustration level) found word recognition scores improved upon rereading. Rate improved in studies by Kasdon (1971), Waynant (1972, and Christensen (1974).

Areas not considered in the above studies included 1) ability to utilize context as a function of familiarity with the material, 2) stability of errors on rereading, and 3) a study of carefully delineated subtypes of the substitution category of errors to determine if a shift in miscue patterns occurs between the instructional and frustration levels for these subcategories at the third grade developmental reading level.

TABLE IV

SUMMARY OF REREADING STUDIES

Study	Grade	Treatments	Test	Results	.01 Sign. Level
Kasdon (1967)	4, 5, 6,	Own control O - C S - O - C	Spache Diagnostic Reading Scales	S-O-C WR	higher comprehension faster rate same
Kasdon (1969)	9th	2 groups C - C S - O - C	Gray Oral Reading Test	O-C S-O-C	fewer mispronunciations fewer omissions fewer insertions fewer partial mispronunciations fewer repetitions better comprehension rate same
Lowell (1970)	one eleven year old boy	Own control Five readings of same passage			fewer word recognition errors after first reading
Glenn (1971)	2, 3, 4	3 groups O - C S - O - C S - C - O	Gilmore Oral Reading Test		word recognition errors same within grade level comprehension lower in S-C-O treatment at all levels
Waynant (1972)	2, 5	Own control O - C S - O - C	I. R. I.		word recognition and compre- hension same in both treat- ments Rate higher in S-O group

TABLE IV (CONT)

Study	Grade	Treatments	Test	Results	.01 Sign. Level
Blohowiak (1971)	Lower & Middle Socioeconomic class, 4	Own control O-C C-O-C	I. R. I		Comprehension and word recognition score higher in S-O-C
Busboom (1974)	2, 3, 4, 5	S-O-C O-O-C S-C-O O-C-O At instructional & frustration	Pupil Placement Test		No difference in word recognition and comprehension at instructional level. At frustration word recognition scores higher in S-C-O and O-C-O treatments
Christensen (1974)	2nd	Own control O-O at Instructional & frustration	I. R. I.		No difference in 20 of the 21 error categories at either instructional or frustration level. Refusals decreased significantly at instructional level. Significant difference in rate at both levels favoring 2nd oral reading.

CHAPTER III

DESIGN AND METHODOLOGY

Included in this chapter are a description of the population of the study, the testing procedure, the test instruments used in collecting the data, and the statistical treatment of the data.

Description of the Population

The population for this study consisted of elementary school students who were considered to be third grade developmental readers, that is, those who are reading not more than three-fourths of a year above or below the 3.5 reading level. The students came from Hodgins Elementary School located in a middle class neighborhood in Albuquerque, New Mexico. The population included some Native American and Mexican-American students.

Students selected for this study were identified through the following procedure:

1. Teachers were asked to identify the students reading between 2.75 and 4.25 grade levels.
2. The Standard Reading Inventory was administered to each of the identified students by one of the members of the testing team. Instructional and frustration levels were established by the Standard Reading Inventory. Twenty-six students whose instructional level fell within the

third grade developmental reading range qualified and were then included in this study.

Testing Procedures

Extended Oral Passages were administered to the subject within two days after the initial screening. Subjects were tested in rooms relatively free from distractions. Only the investigator and the student were present during the testing. The students were asked to read and then immediately reread the same Extended Oral Passage at instructional level and twice read the Extended Oral Passage at frustration level. Each reading was taped so as to facilitate later scoring. Each reading of the Extended Orals was timed. Errors made were analyzed using the -S-R Error Analysis System.

Instruments Used

Cracken Standard Reading Inventory (1966),
SRI)

This test was used to screen those students whose instructional level fell between 2.75 and 4.25 grade levels on both word recognition and comprehension. There are two equivalent forms of the S.R.I. The S.R.I. is individually administered. The test consists of 11 stories used in oral reading, 8 for silent reading, and 11 word lists for word recognition in isolation. The length of the stories varies from 47 to 51 words. The difficulty levels of the stories and word lists range from pre-primer to seventh reader levels. Ten comprehension questions accompany each passage. Independent, instructional and frustration

levels are identified by the S.R.I. Only instructional and frustration levels were used in this study.

Concurrent validity for the instructional level set by the S.R.I. is relatively high (0.87 for 79 second graders when compared with the California Reading Test, and 0.77 for 77 third graders when compared with the Stanford Achievement Test). Equivalent form reliability for the S.R.I. has been established by having two examiners administer Form A and B to 60 students in grades one to six. Correlations at the instructional level was .95.

Stories of Stuever Reading Test

This test consists of a series of graded extended oral passages taken from basal reader-type materials thought to be unfamiliar in most schools. Readability levels were established by use of the Spache formula (1953). These levels are comparable in readability with equivalent passages on the S.R.I. (Stuever, 1969).

Passages selected for use in this study included: "How Baseball Began" at the 3.0 level was adapted from How Baseball Began in Brooklyn by LeGrand Henderson, Abington Press; "The Mystery of the Breaking Stairs," at the 3.6 level, by Charlotte Jeanes, Lyons and Barnahan Curriculum Enrichment Series, New Trails. Additional passages selected included: "Old Grouch Moves In" at the 4.0 level by Rutherford Montgomery in Kildee House published by Doubleday and Company; "Micky Mantle" by Gene Schoor in Mickey Mantle of the Yankees by G. T. Putnam's Sons at the 4.6 level; "Westward Ho!," "Best Known Member of the Family," and "Operation Sunshine," all published in From Codes to Captains published by Harper and Row at 4.95, 5.52, and 5.96 levels respectively.

B-S-R Error Analysis (1969)

The B-S-R Error Analysis was devised by Berends, Stuever, and Ray at the Oklahoma State University Reading Center. An attempt was made to combine Gates' (1947) and Monroe's (1932) error classification systems, Gates' being primarily visual perception categories and Monroe's visual-auditory categories. A model of the B-S-R Error Analysis as presented in Stuever's study (1969), with one alteration, was used in this study.

The following addition was made to the B-S-R; "refusals" was used in place of words aided and was recorded as a sixth major category for the purpose of this study. Since no assistance was given the reader, all nonresponses were scored in this category. The B-S-R Error Analysis system used was as follows:

- A. Visual Perception--word parts. These occurred where it was evident that the reader quickly and fluently produced the word error, perhaps because of faulty perception.
1. - + + middle end correct: pet for set
 2. + - + where the first and last letter are correct:
front for faint, want for went
 3. + + - end incorrect excluding s, ed, ing which were categorized under structure: as for ask, saw for sat
 4. - - + end only correct: at for out
 5. + - - beginning only correct: do for did, called for come
 6. - + - middle only correct: sat for ran
 7. --- word completely wrong or if correct, word consisted of one or two letter word

8. Directional confusion.

(1) Rotations: dig for big

(2) Reversals: Both whole and partial reversals
and word sequence--was for saw, less for else

3. Visual Auditory Perception Errors. These included errors of sound-symbol relationships, where it was evident that the reader was struggling with the sound symbol relationships or gave the wrong sound for the symbol. Under these were categorized:

1. C single consonant: raced for raised

2. CC ka nights: knife for knight

3. V lat for late

4. VV eespecially for especially, cont for count

5. CCVV ex-min-sinned for examined

6. Syllabic Division: ex-ae-md for examined

C. Structure: This category included contractions, compound words, inflectional endings, and prefixes and suffixes.

D. Behavior: Included in this general heading were omissions of whole words, additions of whole words, repetitions, and corrections. These are symptomatic of various reading difficulties.

E. Refusals: All nonresponses were included in this category.

Counted as one error regardless of the number of words affected were additions, omissions, and repetitions. Corrections were placed under Behavior as repetitions.

Reliability was established by both Stuever (1969) and Russell (1973). Using the Scotts Coefficient formula, reliability coefficients of .94 and .96 respectively were found.

Statistical Techniques used in the
Treatment of the Data

A repeated measures design utilizing a t-test for dependent means was employed to statistically test for differences between first and second readings (McGuigan, 1968). Each child in this type of design serves as his own control. The t-test values were calculated using the following formula:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\frac{\sum D^2 - (\sum D)^2}{n}} \cdot \frac{1}{\sqrt{n(n-1)}}$$

where D = difference between the dependent variable for each pair of scores on each subject

n = number of subjects in a group

\bar{X}_1 = mean of scores for first readings

\bar{X}_2 = mean of scores for second readings

Critical t values used in determining significance are:

$$t_{25, .01} = 2.787$$

$$t_{25, .02} = 2.485$$

$$t_{25, .05} = 2.060$$

$$t_{25, .10} = 1.708$$

Summary

This chapter has described the population used in this study and the test instruments utilized in the collection and analysis of the necessary data for testing the hypotheses and in developing a reader profile. In addition, the statistical techniques employed in the treatment of the data have been defined.

CHAPTER V

TREATMENT OF DATA AND ANALYSIS OF RESULTS

The purpose of this study was to determine the effect of oral rereading of selections on rate of reading and the production of errors among third grade developmental readers. Reading errors made on two oral readings of graded extended oral passages at each of two functional levels were tabulated and categorized according to the B-S-R Error Analysis system. Determinations of differences in reading performance were made between first and second readings at both instructional and frustration levels as well as between the first reading at instructional level and the second reading at frustration level.

The error profiles obtained on the four readings will be discussed first. Next, the hypotheses related to differences in error patterns on first and second readings at both instructional and frustration levels will be discussed.

Reading Profile of the Third Grade

Developmental Reader

An examination of reading behaviors on both the first and second readings at instructional level and the first and second readings at frustration level reveals a remarkable similarity in error patterns for third grade developmental readers. Table V provides a breakdown of errors into the major and minor categories of the B-S-R Error Analysis system.

TABLE V
RESULTS OF READINGS

	1st Instruct.	2nd Instruct.	1st Frust.	2nd Frust.
Visual				
Perception	(135) 27.0%	(119) 28.0%	(249) 35.0%	(175) 31.0%
- + +	(8) 6.0%	(6) 5.0%	(18) 7.0%	(12) 7.0%
+ - +	(43) 32.0%	(38) 32.0%	(80) 32.0%	(49) 28.0%
+ + -	(7) 5.0%	(9) 8.0%	(24) 9.6%	(18) 10.0%
- - +	(2) 1.5%	(3) 2.5%	(4) 1.6%	(4) 2.0%
+ - -	(11) 8.0%	(11) 9.0%	(20) 8.0%	(20) 11.0%
- + -	(3) 2.0%	(0) 0	(2) .8%	(1) .6%
- - -	(58) 43.0%	(47) 39.5%	(89) 36.0%	(65) 37.0%
S. D.	(0) 0	(0) 0	(4) 1.6%	(2) 1.0%
Direction	(3) 2.0%	(5) 4.0%	(8) 3.2%	(4) 2.0%
Visual				
Auditory	(36) 7.0%	(27) 6.0%	(84) 12.0%	(47) 8.0%
C	(4) 11.0%	(0) 0	(17) 20.0%	(3) 6.0%
CC	(0) 0	(2) 7.0%	(5) 6.0%	(5) 11.0%
V	(5) 14.0%	(2) 7.0%	(13) 15.0%	(5) 11.0%
VV	(10) 28.0%	(3) 11.0%	(11) 13.0%	(6) 12.0%
CCVV	(17) 47.0%	(20) 74.0%	(38) 45.0%	(28) 60.0%
Refusals	(39) 8.0%	(19) 4.0%	(50) 7.0%	(37) 7.0%
Behavior	(240) 48.0%	(248) 58.0%	(271) 37.0%	(259) 46.0%
Omission	(31) 13.0%	(43) 17.0%	(41) 15.0%	(36) 14.0%
Addition	(18) 7.4%	(8) 3.0%	(23) 8.0%	(16) 6.0%
Repetition	(91) 38.0%	(105) 42.0%	(97) 36.0%	(100) 39.0%
Correction	(100) 41.6%	(92) 37.0%	(110) 41.0%	(107) 41.0%
Structural				
Analysis	(45) 9.0%	(28) 6.0%	(64) 9.0%	(39) 7.0%
TOTAL ERRORS	(495)	(441)	(718)	(557)

The percentages of the major categories remained relatively constant although the number of errors within each varied to some extent. In the visual perception category, the greatest source of error occurred in the medial position (+++) and no graphic similarity (---, sight word) subcategories. In the visual auditory category, errors occurred most frequently in the "wrong in several parts (ccvv)" subcategory. Variability of numbers of errors was smallest among the behavior subcategories (as per repetitions and corrections). Generally, a decrease in numbers of errors occurred upon rereading of the passage at both instructional and frustration levels. An increase in numbers of errors in most categories was evidenced at the first reading at the frustration level.

Errors categorized in Table V can be further interpreted in terms of criteria used in establishing functional levels on informal reading inventories. Traditionally, included in the informal analysis have been errors of the following types: visual perception, visual auditory, refusals, omissions, additions, and structural analysis. Table VI provides mean scores for each of these types for the two readings at instructional and frustration levels.

Using informal reading inventory criteria of 91 to 94 percent for instructional level, word recognition scores at first instructional reading and second frustration reading fall within instructional level tolerance bands. The Instruction II (second reading instructional) word recognition score is indicative of independent level behavior. Frustration I word recognition score is definitely frustration level behavior. The same word recognition percentages analyzed according to Bett's criteria (requiring second readings only) indicate that the Instruction II score is instructional. The Frustration II word recognition

TABLE VI

MEAN SCORES FOR SCOREABLE ERRORS

	Inst. I	Inst. II	Frust. I	Frust. II
Visual Perception	5.40	4.76	9.96	7.00
Visual Auditory	1.40	1.08	3.36	1.88
Refusals	1.56	.76	2.00	1.48
Omissions	1.24	1.72	1.64	1.44
Additions	.72	.32	.92	.64
Structural Analysis	<u>1.80</u>	<u>1.12</u>	<u>2.56</u>	<u>1.56</u>
	12.12	9.76	20.44	14.00
Word recognition % (per 184 words in sample analyzed)	93.5%	94.7%	88.89%	92.4%

percentage falls somewhere between instructional and frustration levels. Using Smith's criteria, all four word recognition scores fall within the instructional tolerance band.

Percentage of difference between the means of the first and second readings at both instructional and frustration levels is given in Table VII.

TABLE VII

PERCENTAGE CHANGE IN ERRORS

Visual Perception		-11.85%		-29.8%
-++	-25.0%		-33.4%	
+ ++	-11.6%		-38.8%	
++-	+28.5%		-25.0%	
--+	+50.0%		0	
+--	0		0	
-+-	-100.0%		-50.0%	
---	-18.9%		-27.0%	
Syll. Div.	0		-50.0%	
Directional	+66.6%		-50.0%	
Visual Auditory		-25.0%		-44.1%
c	-100.0%		-82.4%	
v	-60.0%		0	
cc	+100.0%		-61.6%	
vv	-70.0%		-45.5%	
ccvv	+17.6%		-26.4%	
Refusals		-51.2%		-26.0%
Behavioral		+3.3%		-4.5%
Omissions	+38.7%		-12.2%	
Additions	-55.5%		-30.5%	
Repetitions	+15.3%		+3.0%	
Corrections	-8.0%		-2.7%	
Structural Analysis		-37.7%		-39.1%

Greatest reduction in errors occurred at the instructional level where a decrease of 51.2% in the number of refusals was evidenced. A sizeable decrease in the number of visual auditory errors occurred upon rereading at the frustration level. Again, little variability was noted in the behavioral category. Other minor error categories showed sizeable changes. These, however, involved very small means and cannot reliably be indicative of normal reading behavior.

Table VIII summarizes the recurrence of the nonbehavioral type of error on the same word upon rereading at both instructional and frustration levels:

TABLE VIII

PERCENTAGE OF REPEATED ERROR AT INSTRUCTIONAL
AND FRUSTRATION LEVELS

	Instructional I	Frustration I
Total nonbehavioral errors	255	447
Error on the same word upon rereading	90 (35.2%)	176 (39.3%)
Error in same location upon rereading	55 (21.5%)	104 (23.2%)
Error type change upon rereading	35 (13.7%)	72 (16.1%)

A further breakdown of the data presented in Table VIII indicates a tendency for the reader to repeat errors located in the same subcategories as shown in the general profile developed in Table IV. The breakdown is presented in Table IX.

TABLE IX

REPEATED ERRORS OF SAME TYPE

	Instructional	Frustration
Visual Perception		
--+	0	2.8%
++	21.8%	20.1%
+-	1.8%	4.8%
+-	1.8%	0
+-	3.6%	3.8%
+-	0	0
---	14.5%	15.3%
Syl. Div.	0	1.9%
Directional	0	1.9%
Visual Auditory		
C	0	.9%
CC	0	.9%
V	0	1.9%
VV	0	2.8%
CCVV	16.3%	7.6%
Refusal	21.8%	20.1%
Structural Analysis	18.1%	14.4%

TABLE X

REPEATED ERRORS ON SAME WORD
BUT OF DIFFERENT TYPE

	Instructional	Frustration
Visual Perception to Visual Auditory	14.2% (5)	15.2% (11)
Visual Auditory to Visual Perception	28.5% (10)	27.7% (20)
Visual Perception to new Visual Perception	14.2% (5)	15.2% (11)
Visual Auditory to new Visual Auditory	5.7% (2)	4.1% (3)
Visual Auditory to Refusal	5.7% (2)	8.3% (6)
Refusal to Visual Auditory	11.4% (4)	8.3% (6)
Refusal to Visual Perception	5.7% (2)	5.5% (4)
Visual Perception to Refusal	5.7% (2)	5.5% (4)
Structural Analysis to Visual Auditory	2.8% (1)	1.3% (1)
Refusal to Structural Analysis	0	1.3% (1)
Structural Analysis to Visual Perception	2.8% (1)	1.3% (1)
Visual Auditory to Structural Analysis	2.8% (1)	2.6% (2)
Structural Analysis to Refusal	0	1.3% (1)
Visual Perception to Structural Analysis	0	1.3% (1)

Table X describes the type of error change undergone when a miscue was repeated on the same word during the rereading of passages at both instructional and frustration levels. The largest percentage of error change at both levels was from visual auditory to visual perception type.

The only discernible difference in percent of error change between the readers' performance at the two levels was in the shift from a refusal type error to a visual auditory error. This may be indicative of the reader's ability to utilize context to a greater extent at instructional than at frustration levels.

The ability of third grade developmental readers to utilize context clues in reading was evaluated in terms of the miscue's appropriateness within the preceding context and in terms of their appropriateness in the total sentence. Tables XI and XII describe the percentage of total miscues that were judged appropriate or not appropriate or both in the first and second readings at instructional and frustration levels. Errors occurring on the first word of sentences were not included in the analysis.

TABLE XI

APPROPRIATENESS OF VISUAL AUDITORY AND
VISUAL PERCEPTION SUBSTITUTION MISCUE
TO THE PRECEDING CONTEXT

		Appropriate	Not Appropriate
Instructional	First Reading	65% (132)	35% (70)
	Second Reading	70% (112)	30% (47)
Frustration	First Reading	61% (223)	39% (145)
	Second Reading	59% (149)	41% (103)

TABLE XII

APPROPRIATENESS OF MISCUE IN THE
TOTAL SENTENCE CONTEXT

		Appropriate	Not Appropriate
Instructional	First Reading	44% (88)	56% (113)
	Second Reading	48% (76)	52% (83)
Frustration	First Reading	35% (127)	65% (241)
	Second Reading	35% (87)	65% (165)

The reader's ability to utilize either preceding context or total sentence context varies only slightly from first to second reading at both instructional and frustration levels. There is a slight decrease in ability to use context of the total sentence at frustration level as compared to instructional level. Rereading of passages appears to have little effect on the reader's ability to utilize either preceding or total sentence context. However, difficulty level of the material does have some effect on the ability to utilize context.

Hypotheses

Hypotheses I. There is no significant difference between the error pattern on the first reading of an extended oral passage at instructional level as compared to the error pattern found on a second reading of the same passage.

Hypotheses 1, 2, and 3 were tested on each of the following major and minor categories: visual perception - total plus nine subcategories, visual auditory - total plus five subcategories, refusals, behavioral - total plus four subcategories, and structural analysis.

To test hypothesis I, the total number of errors was determined for both first and second readings of the instructional level passage. These errors were then classified according to major and minor categories and the means for each error type were computed. To determine the significance of any differences, a t-test for dependent means was computed for each error type. This data is reported in Table XIII.

On the basis of the above evidence, Hypothesis I can be rejected for two major categories of errors: structural analysis and refusals. Little difference between the means of the first and second readings at instructional level was discernible.

Hypothesis II: There is no significant difference between the error pattern made on the first reading of an extended oral passage at frustration level as compared with the error pattern found on the second reading of an extended oral passage at frustration level.

To test Hypothesis II, the mean number of errors for both the first and second readings at frustration was determined. These errors were categorized according to the B-S-R Error Analysis system and a t-test for dependent means was computed for each error type. This data is reported in Table XIV.

TABLE XIII

DEPENDENT T-TEST FOR THE INSTRUCTIONAL
LEVELS I AND II

		Significance
Visual Perception	$t = .887$	
--++ $t = .606$ +-+ $t = .55$ ++- $t = -.427$ --+ $t = -.587$ +- $t = 0$ -+ $t = 1.247$ -- $t = .793$ Syl. Div. $t = 0$ Directional $t = -.678$		
Visual Auditory	$t = 1.423$	
C $t = -1.68$ V $t = 1.337$ CC $t = -1.681$ VV $t = 1.836$ CCVV $t = -.750$		$p < .10$
Refusals	$t = 2.785$	$p < .02$
Behavioral	$t = -.494$	
Omissions $t = -1.168$ Additions $t = 1.816$ Repetitions $t = -1.152$ Corrections $t = .738$		$p < .10$
Structural Analysis	$t = -.069$	$p < .05$

TABLE XIV

DEPENDENT T-TEST FOR THE FRUSTRATION LEVELS
READINGS I AND II

		Significance
Visual Perception		$t = 4.265$
--+	$t = 1.022$	$p < .01$
++	$t = 3.799$	
++	$t = 1.140$	$p < .01$
--+	$t = 0$	
+--	$t = 0$	$p < .05$
-+	$t = .569$	
---	$t = 2.429$	$p < .05$
Syl. Div.	$t = 1.443$	$p < .05$
Directional	$t = 2.132$	
Visual Auditory		$t = 3.178$
C	$t = 3.192$	$p < .01$
CC	$t = 0$	$p < .05$
V	$t = 2.132$	
VV	$t = 1.547$	$p < .05$
CCVV	$t = 1.021$	
Refusals		$t = 1.518$
Behavioral		$t = .615$
Omissions	$t = .500$	$p < .05$
Additions	$t = 1.045$	
Repetitions	$t = -.2516$	
Corrections	$t = .2961$	
Structural Analysis		$t = 3.140$
		$p < .01$

Hypothesis II can be rejected for all major categories except refusals and behavioral errors. Change in subcategories was significant for three of the visual perception types (+, -, directional) of errors and two of the visual auditory types (c, v).

Hypothesis III: There is no significant difference between the error pattern made on the first reading of an extended oral passage at instructional level as compared to the error pattern incurred on the second reading of an extended oral passage at frustration level. Table XV presents this data.

Only on one subcategory can III be rejected (+). Otherwise no discernible difference between the reading performance at instructional level first reading and the frustration level second reading can be determined.

Hypotheses IV, V, and VI are concerned with rate of reading and will be discussed together. To test these hypotheses, the mean number of words per minute was determined and a t-test for dependent samples was run in order to determine significance in the samples. Tables XVI, and XVII summarize the data.

Hypothesis IV: There is no significant difference between the rate of reading an extended oral passage at instructional level as compared with the rate of reading the same passage for a second time.

This hypothesis can be rejected based on the evidence presented in Table XVI.

TABLE XV

DEPENDENT T-TEST FOR INSTRUCTION I AND
FRUSTRATION II READINGS

		Significance
Visual Perception	t = -2.038	p < .10
-++	t = - .891	
+ ++	t = - .5698	
++	t = -2.102	p < .05
--+	t = -1.0	
+--	t = -1.572	p < .10
-+	t = .623	
---	t = - .614	
Syl. Div.	t = -1.0	
Directional	t = - .328	
Visual Auditory	t = = .931	
C	t = .296	
CC	t = -1.548	
V	t = 0	
VV	t = .941	
CCVV	t = -1.620	
Refusals	t = .200	
Behavioral	t = - .852	
Omissions	t = - .623	
Additions	t = .328	
Repetitions	t = - .518	
Corrections	t = - .450	
Structural Analysis	t = .493	

TABLE XVI

READING RATE

	Inst. I	Inst. II	Frust. I	Frust. II
Words per minute	56.5	66.96	52.52	60.04

TABLE XVII

T-TESTS FOR WORDS PER MINUTE

Instructional level - 1st & 2nd reading	t = -5.294	p .01
Frustration level - 1st & 2nd reading	t = -5.613	p .01
Instructional I & Frustration II	t = -1.609	NS

Hypotheses V: There is no significant difference between the rate of reading on the first reading and rate of reading on the second reading of an extended oral passage written at frustration level.

There is no evidence to support this hypothesis and it, therefore, can be rejected.

Hypothesis VI: There is no significant difference between the rate of the first reading of a passage at instructional level and the rate of the second reading at frustration level.

There is no evidence to support a rejection of this hypothesis.

Summary

This chapter included a detailed account of the effect of rereading on reader behavior. The findings of the investigation were used in the determination of the rejection or non-rejection of the six hypothesis concerning error patterns and rate of reading. The results presented in Chapter IV will be summarized and conclusions offered in Chapter V.

CHAPTER V

GENERAL SUMMARY OF THE INVESTIGATION

This study compared students' oral reading performance on two readings of the same passage at instructional and frustration levels. The sample consisted of twenty-six third grade developmental readers who were reading instructionally between the 2.75 and 4.25 grade levels. After initial teacher indication of reader levels, each student was further screened on the Standard Reading Inventory using both word recognition and comprehension criteria. Each student was then asked to read and reread an extended oral passage at both his instructional and frustration levels. Tape recordings were made of each reading for later analysis.

Errors made on the oral readings were analyzed using criteria established by the B-S-R Error Analysis System. The B-S-R categorizes oral errors into five major categories and 18 subcategories. Comparisons for each of the error types as well as for rate of reading were made between the first and second readings at both instructional and frustration levels. Further comparisons were made between first reading at instructional and second reading at frustration levels. A repeated measures design utilizing a t-test for dependent means was employed to determine the significance of the differences between the readings. Further, a determination of the word recognition scores for each of the four readings was made and compared against commonly used informal

reading inventory scoring criteria. Other analyses included type of error change, consistency of repeated errors, and a measure of the appropriateness of the error to preceding and total sentence context.

Summary of Results

This study has established that third grade developmental readers in this study exhibited consistent types of reading behavior regardless of the difficulty level or their familiarity with the material read. The patterns of errors on all four readings were remarkably similar (see Figures 1, 2, and 3) revealing a common profile of reading behavior that could be expected of third grade readers at Hodgins Elementary School. At the instructional level, the only discernible differences between the first and second readings were in the structural analysis and refusals categories. In both categories, a significant reduction occurred upon rereading. At frustration level, rereadings resulting in a significant reduction of errors in the visual perception, visual auditory, and structural analysis categories. No differences were found between the first reading at instructional level and the second reading at frustration in any of the major categories. Remaining relatively constant across all four readings were the numbers of behavioral characteristics: omissions, repetitions, and corrections.

Internal analysis of the visual perception category revealed the greatest consistency of pattern (see Figures 4, 5, and 6). In the visual auditory category, some variability was found although the change resulted in significant differences only at the frustration level (see Figures 4, 5, and 6).

Mean rate of reading increased significantly upon rereading at both instructional and frustration levels. Interestingly enough, the mean rate of reading comparison between the first reading at instructional level and the rate of the second reading at frustration level revealed no significant difference.

The reduction in the number of scoreable errors from first to second reading at instructional level was sufficient to reclassify the functional level obtained as independent level (from 93.5% to 95.7% word recognition score). At frustration, rereading reduced the number of scoreable errors to a level within the instructional band of performance (from 88.89% to 92.4% word recognition score).

Only one-fifth of the nonbehavioral errors were repeated at both the second reading at instructional and frustration performance levels and were of the same type as on the first reading. These errors generally reflected the same pattern of occurrence as shown in the general profile (Table I).

Errors which were repeated on the same word (15%) upon rereading but which changed type were relatively constant for both instructional and frustration levels revealing a stabilization of strategy employed by the reader at both functional levels.

Rereading had little effect on the ability of the third grade developmental readers to utilize either preceding or total sentence context. However, some decrease in ability to use context clues was noted as difficulty of the passage increased.

Theoretical Implications

Many reading authorities hold the contention that definite word recognition strategies are operant at various reader developmental stages. This contention appears to be upheld by the results of this study. The profile of reader behavior emerging from this study does suggest definite and consistent utilization of strategies which may well be indicative of expected reader performance at the third grade reader level. Several implications can be drawn from this study.

1. The consistency of error patterns across all four readings is suggestive of definite word recognition strategies employed. These strategies have apparently been internalized and may have become behavioral in nature at this developmental stage. The pattern of errors should provide information concerning the graphic configuration to which the reader is attending, thus providing direction for the teacher in planning for long range instruction. Since the only difference between the readings at either instructional or functional level was in the number of errors incurred, diagnostically, a pattern of reading behavior resulting from one oral reading should suffice in providing an accurate determination of needs of the students.

2. Rereading resulted in a reduction in the numbers of errors at both instructional and frustration level. Since the numbers of errors are indications of the difficulty of the material read, this reduction then reflects a decrease in difficulty encountered by the reader upon rereading the material. As a result, the second reading at frustration level can be considered to be of the same difficulty for the reader as the first reading at instructional level. It may well be that an 88.9% word recognition score on first reading is therefore equivalent to a

92.4% word recognition score resulting from rereading. A first reading word recognition score of 88.9% should probably be used in placing students in instructional programs. Instructionally, this finding is important since it signifies that familiarity with material read, provided through rereading, reduces the numbers of errors produced, thereby affecting the difficulty of the material for the reader. This tends to support the current practice of two readings recommended in a developmental reading lesson.

3. This study found that only 20% of the errors incurred in the first readings of passages at both functional levels were repeated upon rereading. These repeated errors, however, did not constitute the total number of errors made on the second reading. New errors were produced in the second reading of the same passages. However, since the patterns of errors on both readings at instructional and frustration levels were essentially the same, the reader obviously made a consistent type of incorrect responses on the new words on which errors were made. Again, this may describe the developmental nature of consistent word recognition strategies employed by the student. The absence of repeated errors and the production of new errors upon rereading indicated that any diagnosis or analysis of specific words on which errors were made may provide a distorted or at least incomplete picture of the decoding abilities of the student. Only through a determination of the pattern of error, which depicts particular use of perceptual and/or word attack strategies, can an accurate determination of decoding skill needs be made. Diagnostically, any semantic and/or syntactic analysis system which isolates only specific words upon which to run its analysis would certainly result in an incomplete depiction of what the student is

doing while reading. A question arises, should this semantic and/or syntactic type of error analysis be based on first or second reading at either instructional or frustration levels? Which set of miscues should be analyzed? Due to the production of new errors upon rereading, the results and interpretation in such an analysis may prove to be unreliable and the remedial or instructional program established could certainly be contradictory.

4. Inability of readers to utilize preceding sentence contextual clues was evident in only 3 to 4 percent of the words read. Readers demonstrated a well-developed ability to use language anticipation clues in reading. Diagnostically, an error analysis system relying on syntactic or semantic analysis at the third reading level may appear unwarranted unless it also responds to the perceptual and phonetic clues to which the student is responding.

5. The miscue category displaying the most consistency in terms of frequency of occurrence was that of behavioral characteristics. Diagnostically, this may suggest that repetitions and corrections, not currently part of scoring criteria used for determination of performance levels in many error analysis systems, should be included as part of this scoring criteria used in determining placement levels for readers. Instructionally, these may be indicative of a stage of development thereby reflecting normal reader behavior. As such, this behavior is not necessarily incorrect or wrong.

6. The rate of reading can also be indicative of the difficulty of the material. At both functional levels, the increase in rate suggests a decrease in difficulty of the material. The reading rates of the second reading at frustration and the first reading at instruc-

tion were not significantly different. This suggests that both were at the same level of difficulty.

Suggestions for Further Study

1. This study should be replicated at different reading levels.
2. A study of the effect of differing instructional programs on rereading behavior at both instructional and frustration levels should be attempted.
3. It is recommended that a longitudinal study be conducted comparing the effects of rereading as reader proficiency is developed.
4. It is recommended that a study of error patterns be made between errors made on words in context and errors on words in isolation to determine the relationship between profiles of errors between the two.

Instructional: 1st Reading -----
2nd Reading _____



Figure 1. Mean Error Category Scores at Instructional

Frustration: 1st Reading - - - - -
2nd Reading —————



Figure 2. Mean Error Category Scores at Frustration

Instructional 1st Reading -----
 Frustration 2nd Reading _____

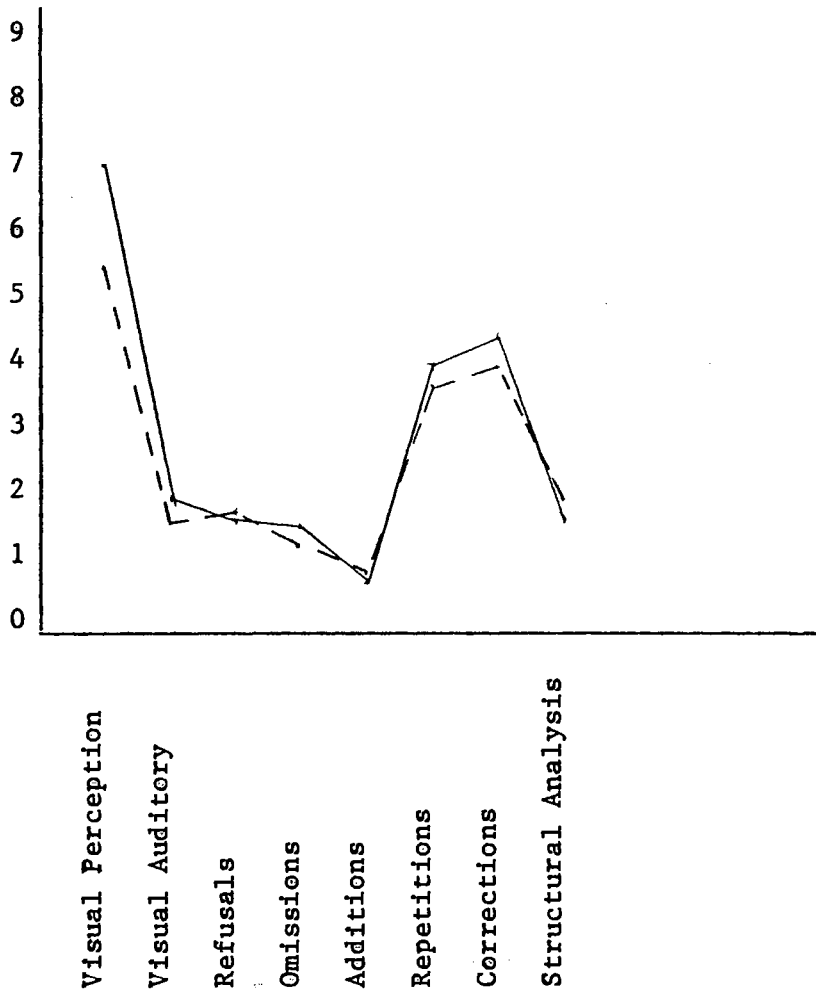


Figure 3. Comparison of the Mean Error Category Scores at Instructional 1st Reading and Frustration 2nd Reading

Instructional: 1st Reading -----
 2nd Reading —————

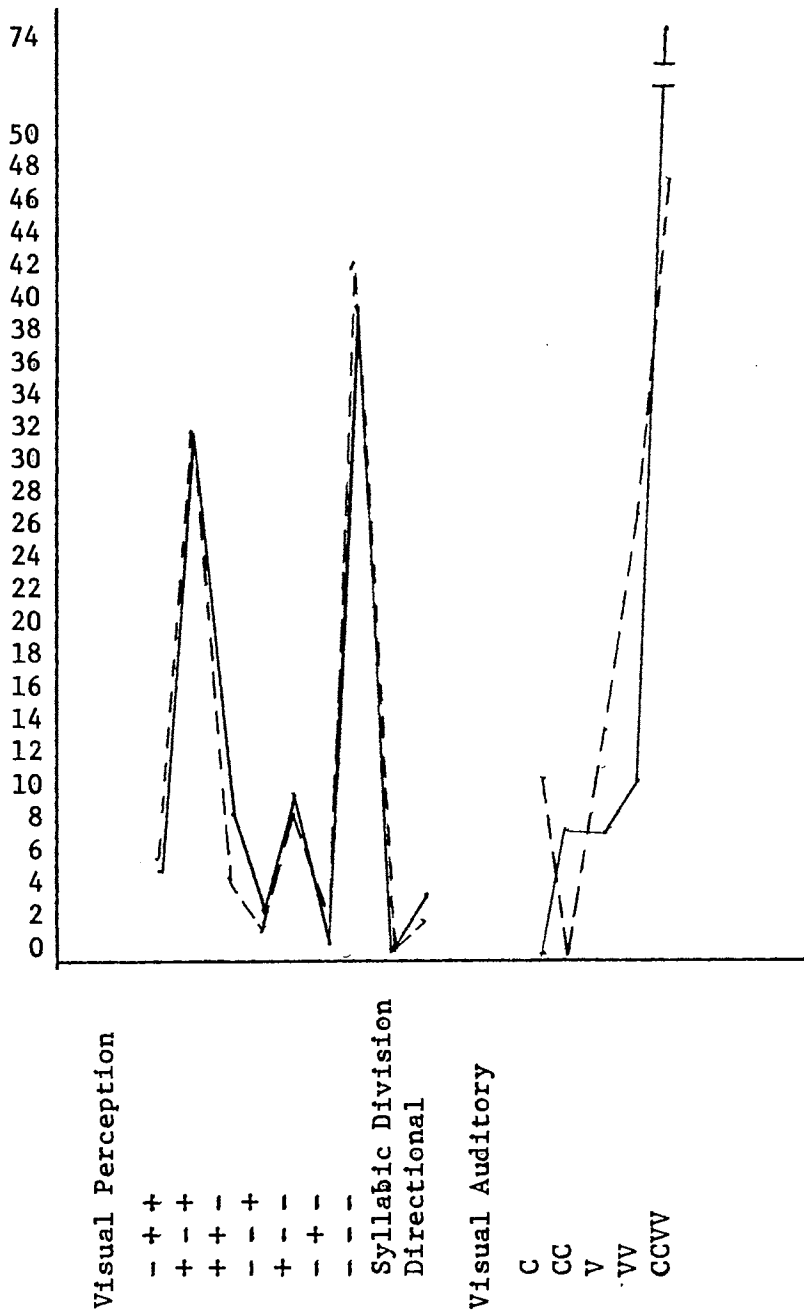


Figure 4. Percentage of Errors in Visual Perception and Visual Auditory Categories

Frustration: 1st Reading -----
 2nd Reading _____

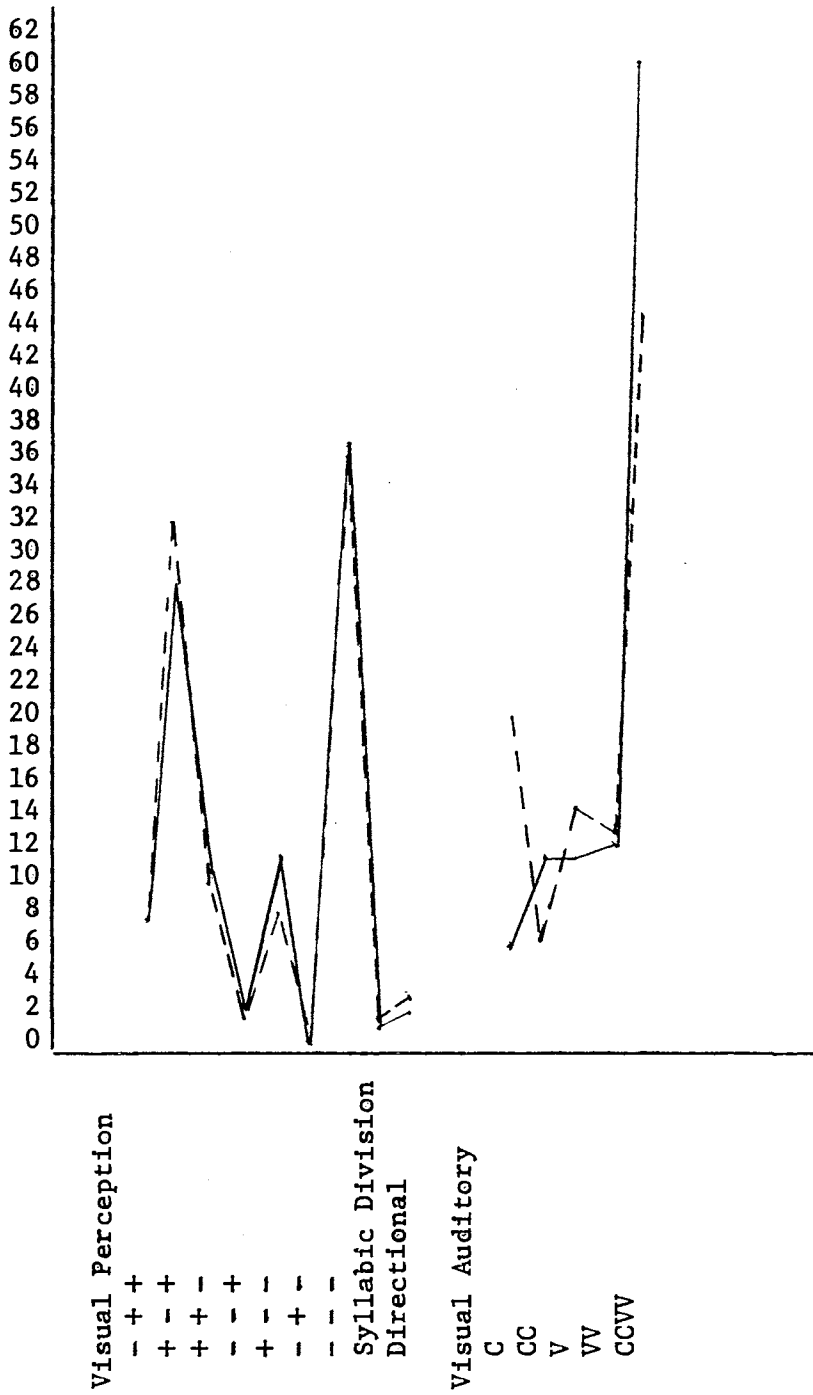


Figure 5. Percentages of Errors in Visual Perception and Visual Auditory Categories

1st Reading Instructional -----
 2nd Reading Frustration _____

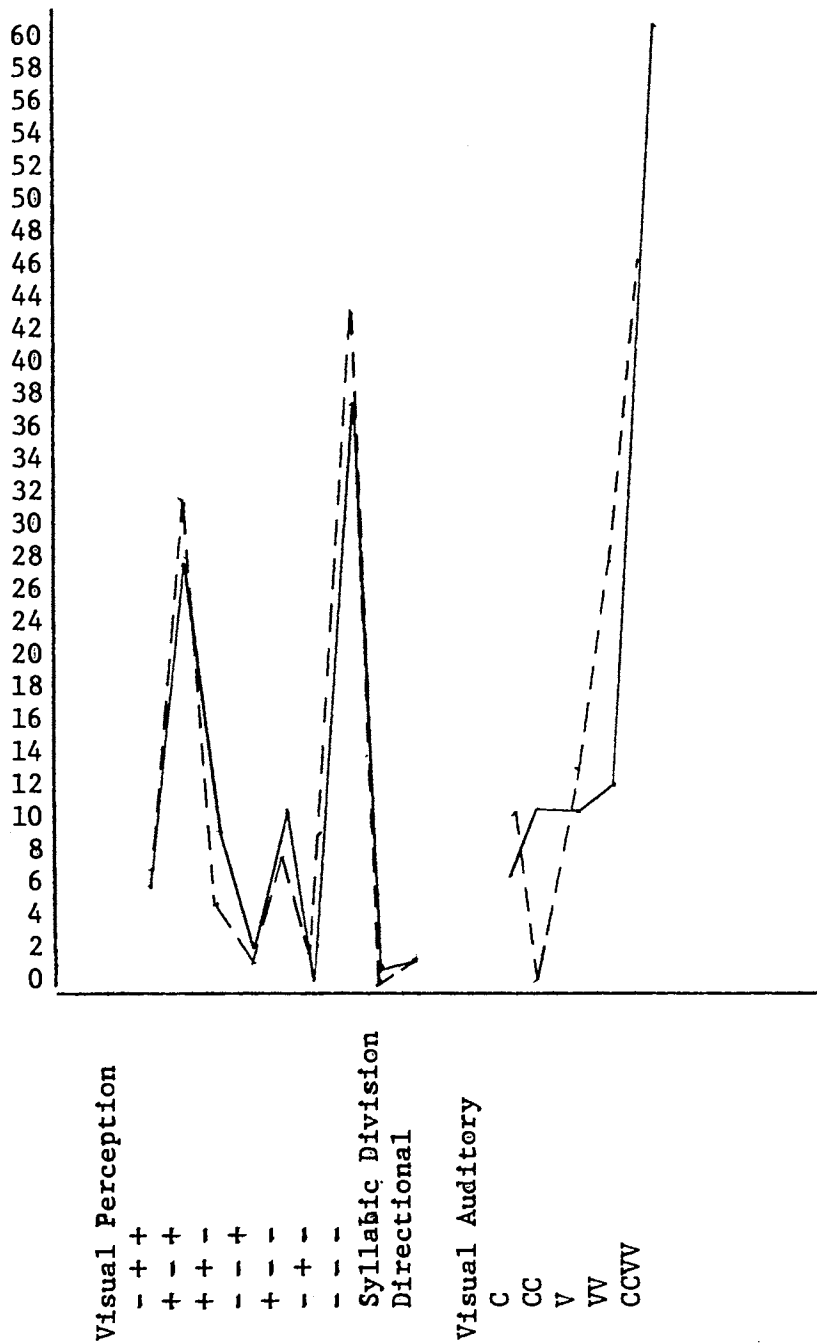


Figure 6.- Comparison of Visual Perception and Visual Auditory Error Percentages at 1st Reading at Instructional Level with 2nd Reading at Frustration Level

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