USING THE CLOZE PROCEDURE AS A MEANS OF IMPROVING REMEDIAL READING STUDENTS' USE OF CONTEXT CLUES

CENTRE FOR NEWFOUNDLAND STUDIES

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ELEANOR CAVELL MORRIS

Using the Cloze Procedure as a Means of Improving Remedial Reading Students' Use of Context Clues

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A thesis presented in partial
fulfillment of the requirements
for the degree of
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Abstract

This study was undertaken to analyze the use of the cloze procedure as a tool for improving remedial reading students' use of context clues in word recognition, vocabulary development and reading comprehension.

The students selected for study were three female and two male fifth graders from an elementary school in Conception Bay, Newfoundland. They attended a regular classroom for all subject areas of the curriculum except the Language Arts Program which was undertaken in the Learning Resource Room where individual help was given daily by a Special Education teacher. The students' ages ranged from nine to eleven years.

The standardized tests used to obtain data were The Weschsler Intelligence Scale for Children, The Lorge-Thorndike Intelligence Test, The Gates-MacGinitie Reading Test and The Canadian Test of Basic Skills. An analysis of the data indicated that each student was slightly below average ability in word recognition, vocabulary development and reading comprehension skills. Testing, employing a miscue analysis inventory, further indicated that none of the students

were utilizing contextual clues to obtain meaning.

The investigator used various cloze procedure methods in working with each of the five students over a ten week period. The methods employed were oral context; content words such as nouns, verbs, adjectives and adverbs; vowels from selected words; selected words with only the initial consonant included; omission of letters from words; deletion of every tenth word and random deletion of words. At the end of the ten week study period, post-testing was carried out using The Gates-MacGinitie Reading Test, Level D, Form 2 and experimenter-written cloze tests using cloze passages in which every tenth word was deleted. This post-testing provided an evaluation of each student's reading comprehension and determined group gains.

The standardized post-tests indicated an increase from one year to one year four months on comprehension skills and from six months to one year one month on word-recognition and vocabulary development skills. The experimenter-written cloze tests indicated that when exact responses were given, the range of scores for the five students was from 50% to 70%, while the range

of scores when appropriate synonyms were scored was from 90% to 100%. In addition, students at the end of the study scored from 70% to 100% on cloze passages with a readability level of 4.5 as compared to scores from 60% to 80% on a 2.6 readability level at the beginning of the study. The results of the standardized post-tests and the results of the experimenter-written cloze tests indicated that the cloze procedure was effective in raising each student's word recognition, vocabulary development and reading comprehension skills.

This study indicates that the cloze procedure is an effective teaching and testing tool which should be considered as part of the regular curriculum for remedial reading students.

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CHAPTER I

An Overview of The Study

Introduction

Word recognition, vocabulary development and reading comprehension are basic functions in learning to read and the development of proficiency in these functions must be a major concern in any reading programme, regardless of the instructional techniques being used. While it is true, as Silvaroli and Wheelock (1980) maintain, that "reading cannot take place unless the student can identify and recognize the printed symbol," (p. 3) recognition of the printed symbol alone will not ensure meaning. Word recognition, vocabulary development and reading comprehension, together go a long way in enabling the would-be reader to take information from written symbols and reconstruct a message. Hence, word recognition, vocabulary development and reading comprehension are critical to reading, however one defines that complex process.

According to Goodman (1969), reading is the process by which readers discover meaning in written language by actively applying their knowledge of

language, their past experience and their conceptual attainments of the processing of language information encoded in the form of graphic symbols (p. 29). To a great extent, research in reading suggests that effective readers are those who reconstruct a written message in a manner which allows them to gain the greatest amount of information and meaning from that written material (Goodman, K, 1972; Goodman and Burke, 1972). Goodman (1970) referred to reading as a psycholinguistic guessing game in which fluent readers, when trying to reconstruct the meanings which an author originally encoded in print, have available to them three major cueing systems: grapho-phonic, syntactic, and semantic. He emphasized that fluent readers are able to use syntactic and semantic cues to such a great extent that in many cases they need to use only minimal graphic cues. Smith (1975) viewed this state of making sense of written language as comprehending or reducing uncertainty.

In 1953, Taylor introduced a procedure called the cloze procedure for measuring the effectiveness of print communication. This procedure was also helpful in teaching all children, especially those experiencing

difficulty in reading. Taylor felt that the cloze procedure was an excellent way to focus on the development of contextual cues as aids in word recognition, vocabulary development and in reading comprehension. Cloze passages forced the reader to deal with the syntactic and semantic cueing systems of written language. The procedure involved the systematic deletion of words or portions of words from selected passages that the reader must process and complete for meaning.

Taylor compared the process individuals go through in filling in a cloze blank to the Gestalt theory of closure; in which the human tendency is to see incomplete structures in terms of complete patterns. He defined a cloze unit as "any single occurrence of a successful attempt to reproduce accurately a part deleted from a message by deciding, from the context that remains, what the missing part should be" (p. 416). Since the reader must study the surrounding context in a message and make a judgment based on his or her understanding of the author's message, the teacher can use the cloze procedure as a diagnostic tool to assess the individual's ability to

use context clues effectively (Peters, 1975-76; Kennedy and Weaver, 1973).

Zintz (1977) noted that the term cloze describes the tendency of the individual to anticipate what will complete an unfinished pattern. In reading, successful anticipation depends on the ability of the readers to use the context to identify the word that will complete a passage. It is assumed that the better the readers are in understanding the passage, the more likely it is that they will be correct in guessing the missing word.

According to Dechant (1982), the cloze procedure may be used to estimate both the difficulty level of materials and the pupil's instructional reading level. It also functions as an effective instructional tool in developing comprehension by focusing on the use of contextual cues (both semantic and syntactic) as aids in word recognition, vocabulary development and reading comprehension. Dechant further contended that students need to be good readers of the context if they are to supply the missing word for the blank space in the cloze passage. If the students cannot fulfill this task, the cloze procedure may be used to teach them how to find the missing word.

The present study proposed to use the cloze procedure to help remedial students who were experiencing difficulty in reading to use context clues to recognize words and interpret meaning from the printed page.

Statement of the Problem

Students' skill in using context needs constant refinement. This skill becomes increasingly more valuable as a student advances through school. In this study the cloze procedure was used as an instructional tool with a group of students in a remedial reading class in an attempt to improve the ability of these students to use clues in context to recognize words and to interpret, more fully, meaning from the printed page. Therefore, the research question was: To what extent does the use of the cloze procedure help improve the ability of remedial students to use context clues to recognize words effectively and to interpret the meaning of words in the context of sentences?

The remedial reading students chosen for this study were not good readers. Previous assessments had shown that these students were weak in the use of context clues to recognize words and to

obtain meaning from reading passages. This was indicated by the results of tests of student's miscues as they orally read passages from the Classroom Reading Inventory by Silvaroli (1980).

Purpose of the Study

The purpose of the study was to analyze the effectiveness of using the cloze procedure with remedial students as a means of improving their use of context clues in word recognition, vocabulary development and reading comprehension.

The most basic of all reading skills consists of the identification and recognition of words (Tinker and McCullough, 1975). A child who cannot identify and recognize words represented by printed or written symbols, will, quite simply, be unable to read. Furthermore, a child must know the meanings of the words he is expected to read (Farr and Roser, 1979; Harris and Sipay, 1979). Some researchers have discovered that direct, systematic, well-planned drill on words in context is valuable to word recognition, vocabulary development and reading comprehension, whereas teaching of words in isolation is usually ineffective (Dechant, 1982). On the other hand, other

researchers have felt that some students rely too much on the context. Emans (1968) believed that "context clues are seldom adequate alone because they provide only one aid to word recognition and vocabulary development" (p. 299). However, the exact meaning of a word very frequently depends upon the context in which it occurs. Consequently, to obtain the exact meaning, the child must comprehend the rest of the words in the sentence or passage. Do children, without instruction, achieve adequate techniques of deriving meaning from context? Tinker and McCullough (1968) indicated in their study that students could not do this. Steiner, Wiener, and Cromer (1971) maintained:

> Poor readers fail to extract contextual clues essential for identification; they seem to be identifying words as if the words were unrelated items unaffected by syntactical or contextual relationships. They are so preoccupied with details that they read a word into the sentence that makes little or no sense. They struggle unsuccessfully to sound out words whose meaning is completely obvious from the surrounding context (p. 299).

Durkin (1976) claimed that "helping children use context to identify words is important because it is one step in the direction of independent children who can solve their own reading problems" (p. 14). As is the case with every other reading skill "awareness and use of contextual aids are best affected by direct teaching and continuous attention" (Tinker and McCullough, 1975;171). Tinker and McCullough also claimed that adequate training in the use of contextual clues has helped to develop reading comprehension. Improving reading comprehension is an important goal, if not the most important goal, of every reading program.

The present study was concerned with the extent to which the use of the cloze procedure can help improve the ability of remedial reading students to use context clues to recognize words and to interpret the meaning of words in the context of sentences. The study was designed to provide answers to the following questions:

1. To what extent is the cloze procedure effective as a technique to aid students in word recognition and vocabulary development?

2. To what extent does the cloze procedure enhance the students' understanding of the meaning of words in the context of sentences and, hence, their reading comprehension?
3. To what extent can the various deletion methods of the cloze procedure, including those following, improve students' use of cloze?
   (a) oral context,
   (b) content words - nouns, verbs, adjectives, adverbs,
   (c) vowels from selected words,
   (d) selected words with only the initial consonant included,
   (e) omission of letters from words,
   (f) deletion of every tenth word and
   (g) random deletion of words.

Need for the Study

Research has consistently indicated that more study on the cloze procedure is needed, since its usefulness and value have not yet been fully

ascertained or measured. While several studies have demonstrated that cloze tasks produce superior comprehension (Bloomer, 1962; Kennedy and Weaver, 1973; Helfeldt, 1986; Riley, 1986), other studies have found that cloze tasks produce no better comprehension than do other reading tasks (Heitzman and Bloomer, 1967; Rye, 1982; Cecil, 1985).

Although research on the cloze procedure itself is extensive, and although there is considerable data on using the cloze procedure as a teaching technique, there is still conflicting results on the effectiveness of using cloze tasks to increase comprehension (Coleman, 1968; LaSasso, 1980; McGee, 1981; Johnson, 1984). Jongsma (1971) found the research to be plagued with design weaknesses, thereby contributing to the conflicting results of the data, whereas Grant (1976) commented that the research on the idea of the cloze procedure as an instructional device to teach students to use context clues is somewhat ambiguous. White et al (1981) suggested limitations on the sensitivity of cloze procedures to measure the ability of students to use information across sentence boundaries. Sampson et al, (1982) contended that cloze-based evaluations of

reading comprehension present room for a greater amount of subjectivity in rating reader response.

On the other hand, as early as 1908, Huey recognized the advantages for readers in seeing words in a context rather than as a combination of individual words when he described the "forward push characterized by feelings of expectance, curiosity and strain when a person was shown a word in context rather than singly" (p. 155). Huey further emphasized that meaning dominates the perception of words and phrases and that stumbling and hesitation in oral reading come from too much attention to the mechanics of reading, especially phonics, and too little attention to the context of the passage.

In 1943 Artley wrote that it was imperative for children not only to be aware of context clues but to be able to utilize them automatically in all their reading. He felt that only by using context could the reader come to full understanding and interpretation of the printed matter. Artley's study suggested the need for instruction in the use of context skills, and noted that one way of focusing attention on context is to use the cloze procedure as an instructional device in

teaching reading.

In his study Rye (1980) felt that the use of the cloze procedure, frequently with modifications, can provide reading teachers with an interesting and instructionally sound approach for supplementing the basic reading program. Baldauf (1981) further contended that the cloze procedure is an effective technique for use in teaching specific reading skills, as well as a test of rate and comprehension. Eagan (1982) also suggested that the cloze procedure can be used both for teaching students how to read more competently and for evaluating their reading achievement. Hedges et al (1983) proposed using the cloze procedure as an instructional technique as well as for testing. He offered cloze exercises designed to teach vocabulary, relationships, and personal involvement.

In spite of the amount of research that is available on the cloze procedure, the present researcher has discovered that there is little data available on using the cloze procedure as a means of improving the use of context clues with remedial reading students. It is for this reason that the

present study may have practical significance in showing whether cloze will enhance word recognition, vocabulary development and reading comprehension in remedial reading students.

Limitations of the Study

Since this study was designed as a case study, it has certain limitations which are inherent in this particular approach. The study was conducted with five fifth-grade remedial reading students who were randomly selected from the remedial students of one classroom. Since this study was conducted in one classroom the results cannot be generalized to other schools or school districts. Rather, the research findings and conclusions drawn from the study are limited to the specific population chosen.

A further limitation may be the length of time designated for this study. The ten week time period, while long enough to indicate some potential effects of using the cloze procedure, may be somewhat short for finding out what effects might be possible if cloze were to be used for an entire school year.

Additionally, no control group was used in this study. A control group would allow for comparison of

the group of students exposed to the cloze procedure with a group that has not been so exposed.

Organization of the Thesis

Chapter I has presented background information necessary for an introduction of the study. It has included a statement of the problem, the purpose of the study, the need for the study, and the limitations of the study.

In Chapter II, The Review of Related Literature, the first section presents the cloze procedure as a measure to determine the readability of passages. The second section presents the cloze procedure as a technique for teaching in the classroom.

In Chapter III, the methods used in conducting this study are described. Included is a description of the subjects, profiles of each subject, test data and test scores, a description of materials, the introduction of the cloze procedure, the administration of the cloze procedure, the cloze scoring methods, and the selection of post-tests.

Chapter IV discusses the analysis of data gathered on the cloze procedure during the ten week study. Each week a new aspect of the cloze procedure

was used and analyzed for results. Week 1 discussed oral context; week 2 discussed noun deletions; week 3, verb deletions; week 4, adjective deletions; week 5, adverb deletions; in week 6, deletions of initial consonants were discussed; in week 7, vowels deleted from selected words were studied; during week 8, letters including vowels and consonants, were deleted; in week 9, random deletions were discussed; in week 10, post-tests were administered. The tests included The Gates-MacGinitie Reading Test, Level D, Form 2 and cloze tests consisting of tenth-word deletions.

Chapter V presents answers to the three research questions posed by this study. Each question is dealt with separately and a summary and discussion of the findings as they relate to the research questions are presented. As well, recommendations for further research are suggested.

CHAPTER II

Review of Related Literature and Research

Much has been written about the cloze procedure. The literature on this topic includes a large number of research studies as well as general articles. For purposes of the present study the literature will be reviewed under two topics: The Cloze Procedure As a Measure to Determine the Readability of Passages and The Cloze Procedure As a Technique for Teaching in the Classroom.

The Cloze Procedure As a Measure to Determine the Readability of Cloze Passages

In 1953 at the University of Illinois, Wilson Taylor introduced a procedure for measuring the effectiveness of print communication. This procedure, called the cloze procedure, derived its name from the Gestalt concept of closure, which is the tendency to complete a structural whole by filling in a missing gap. Taylor applied this procedure by systematically deleting words in a prose selection, for example, every Nth word, every tenth word, or N percent of the words at random, and then asking the reader to replace the

words they had not seen to recreate the whole passage. When he first introduced this concept, Taylor viewed the cloze procedure as a tool that would also offer a new approach to determining the readability of prose material.

Taylor's work encouraged others to study the cloze procedure. For instance, several investigators have employed the cloze as a tool to determine objectively the difficulties readers encounter in prose passages (McLeod and Anderson, 1966). McLeod and Anderson (1966) used the cloze procedure to investigate the possibility of employing estimated redundancy rates of words in passages to assess passage difficulty. They constructed two reading tests which required children to restore the missing words in a series of passages. One word in eight was deleted in each passage. The cloze test was administered to two independent groups of randomly selected children at each grade level from three through seven, and two independent groups of University undergraduate students. The results indicated that "if the word redundancy of passages of English written prose is estimated from restoration of mutilated versions of

those passages by independent samples of the same population, then the estimated redundancies vary as simple powers of one another" (p. 37). McLeod and Anderson suggested that this relationship has significant potential for readability assessment.

With the potential of the cloze procedure already established by previous studies, Bormuth (1966) set out to find improved accuracy in predicting and controlling the readability of written language. Bormuth (1966) identified and investigated five problems basic to the development of sound readability formulae. Cloze tests were used to determine the comprehension difficulties of passages and of each word, independent clause, and sentence within the passages. Twenty passages in the areas of literature, history, geography, biology, and physical science were selected. The subjects, students in grades four through eight, were divided into five form groups. Bormuth concluded:

> "First, linguistic variable which he defined as measures of features of writing style may not necessarily bare linear relationship to comprehension difficulty, but that the results of his study were inconclusive and further

investigation was necessary. Second, a single readability formula can be used to predict difficulty at almost any level of reading ability. Third, readability formulae are useful in predicting the difficulty of individual words, independent clauses, and sentences. Fourth, there is room for improvement in the validity of readability formulae based entirely on linguistic variables. Fifth, development of more sophisticated linguistic variables will result in the greatest degree of improvement in readability prediction (p. 79).

Studies having shown that the degree of difficulty of reading material was largely predictable at any reading level, Dupuis (1976) studied the effect of the cloze procedure on heterogeneously grouped tenth-grade English students in order to match students' reading level with difficulty level of the material to be read.

For the pre-test, students read stories with a cloze exercise, and for the post-test, they completed a multiple-choice comprehension test. Every fifth word was deleted in the cloze reading passages, which

consisted of 200 word selections. Results indicated that correlations between pre- and post-tests were significant for both stories. Prediction equations were developed which supported 48 percent as the cut-off for minimum comprehension. Dupuis felt that these results proved the cloze procedure to be an attractive possibility for matching student reading level with the difficulty level of material to be read. He further felt that cloze might be a useful alternative for teachers who prefer not to rely on standardized reading scores for grouping students or readability formulae for measuring the reading difficulty of literature.

By the 1980's the cloze procedure, including variations of the standard cloze, was subjected to a fair amount of study and testing. Baldauf and Propst (1981) employed the matching cloze to examine the readability of materials designed for Pacific Island elementary students whose second language was English and the medium of instruction was English. However, English reading did not commence until the second grade. Drawing on their experience, Baldauf and Propst determined that the standard cloze

procedure was too difficult for use with beginning students of this type and, therefore, they employed the matching cloze. This necessitated development of readability guidelines different from those of the standard cloze. Baldauf and Propst encountered problems in developing such guidelines. The problems, they suggested, reflected the difficulty in finding accurate measures of readability for these particular students. They determined that the matching cloze procedure showed excellent reliability.

Henk (1983) examined eight alternative cloze test formats (every-fifth/standard, every-fifth/cued, total random/standard, and total random/cued) for use with fourth and sixth-grade students. In each grade 65 students were randomly assigned to one test format. Verbatim and synonymic responses were scored. The students were administered The Ekwall Reading Inventory to determine instructional reading levels. High positive relationships were observed between verbatim and synonymic scoring across all basic cloze forms. The study indicated that none of the fourth-grade cloze formats was significantly related to silent instructional reading levels. At sixth-grade,

appreciable increases in both the concurrent validity and reliability of the formats were noted.

Manning (1986) compared the reading achievement test scores of 239 low-income, southern, urban black students in grades three through eight with their ability to comprehend the social studies books used in their classrooms. Achievement scores were obtained from the reading subtests of The Stanford Achievement Tests. A cloze passage was developed based on the social studies textbook for each grade level. In spite of moderately high correlations between The Stanford Reading Test and the results of the cloze passages, only fifteen percent of the students were actually able to demonstrate the ability to read the grade level text with success.

The Cloze Procedure As a Technique for Teaching in the Classroom

A number of studies have examined the cloze procedure as a technique for classroom teaching. The effectiveness of the cloze procedure as a method of teaching word recognition and vocabulary development and as a measure of the reader's use of contextual information have been assessed. The cloze procedure

has also been used to examine the effect of deleting structural parts of words to teach word analysis, and certain phoneme-grapheme correspondences to teach word attack strategies.

Cloze passages have been used to measure different aspects of reading comprehension by deleting nouns, verbs, adjectives and adverbs. Deletion of these content words have focused instruction on the syntactic contraints of the language. For instance, Rankin (1957) studied the use of the cloze test to measure different aspects of reading comprehension, such as comprehension of specific facts and comprehension of general relationships between ideas. He discovered that cloze tests constructed by deleting nouns, verbs, adjectives and adverbs from a reading passage are primarily a measure of factual comprehension. Rankin has demonstrated that cloze testing is a valid measure for evaluating reading comprehension for most general purposes.

While various studies have suggested a number of uses for the cloze procedure, including testing, clinical diagnosis and remediation, Bloomer (1962) investigated the cloze procedure as a reading

improvement technique for college students. He concluded that significant increases occurred in reading comprehension when cloze procedure exercises were used in a motivational scheme, but increases did not occur in rate of reading and of vocabulary. He expressed doubts about the effectiveness of the cloze procedure below junior high school level due to students' limited abilities in word recognition and vocabulary development at that level.

Other studies have raised questions about the use of the cloze procedure as a technique to improve reading comprehension. For instance, Mosberg et al (1968) investigated the relationship between cloze and multiple-choice tests as measures of reading comprehension at the fifth and eighth grade levels. They concluded that caution should be used when applying cloze test scores as measures of comprehension until detailed analyses show what the cloze procedure is measuring and the grade and difficulty ranges for which the cloze procedure is an appropriate measure.

Similar concerns were raised by Schneyer (1968) who explored the effects of the cloze procedure upon the reading comprehension of sixth-grade students. He

prepared two types of cloze deletions for the study: (1) tenth-word deletions and (2) noun-verb deletions. The major hypothesis was concerned with whether students who completed a series of cloze exercises would achieve significantly greater improvement in reading comprehension than did students who had not completed such exercises. Schneyer reported that the students who had completed the cloze exercises did not show significantly greater improvement in reading comprehension. In attempting to explain these results Schneyer suggested the method could be improved through discussion of the reasons for the appropriateness of specific words for each blank in the passage.

Rankin and Overholser (1969) felt that much of the research to date on contextual clues was based on arbitrary lists of clues rather than clue categories derived from empirical investigation of reader response. Also, they were concerned that many studies have been based on a generalized concept of response to context rather than a highly specific response to particular kinds of context.

Rankin and Overholser set out to apply the cloze procedure to investigate objectively the sensitivity of

intermediate grade pupils to contextual clues. The contextual clues were those described by Ames' (1965) Classification Schema of Contextual Aids. They administered the Context Test to 208 intermediate grade students. The Context Test is a data gathering instrument constructed by using the cloze procedure and deleting nouns, adjectives, adverbs and verbs. These deleted words were taken from contexts fulfilling the requirements of each clue category established by Ames.

The results suggested that intermediate grade students can respond adequately to certain types of clues but not to others. Rankin and Overholser concluded that further research should reveal the extent to which sensitivity to each type of clue can be improved with training. However, as an outgrowth of such research, one should learn more about techniques for teaching the ability to utilize specific contextual clues as an important aspect of reading comprehension.

Bormuth (1969) indicated that cloze tests were a suitable alternative to conventional multiple-choice reading comprehension tests. To examine the factor validity of cloze tests as measures of reading comprehension ability, Bormuth conducted a study

analyzing the principal components of the correlations among nine cloze tests and seven multiple-choice comprehension tests. The tests were administered to 150 subjects in grades four, five, and six. The results indicated that cloze tests made by deleting every fifth word measured skills closely related to or identical to those measured by conventional multiple-choice reading comprehension tests. Little or no evidence was found to suggest that the two types of tests might measure different skills.

To assess the effectiveness of the cloze procedure as a method of teaching vocabulary, Blackwell et al (1972) compared the cloze procedure to the dramatization technique. Third and fourth grade students were divided into two groups, experimental and control. An analysis of the data indicated that the cloze procedure was effective in teaching vocabulary, since superior vocabulary gains were achieved by the experimental group. As well, students involved in this study found the cloze technique to be highly interesting.

Page (1975) investigated the relationship between performance on a conventional cloze test and

performance on a post-oral reading cloze test with students from grades two to six. He concluded that conventional cloze tests predict literal comprehension as measured by multiple-choice comprehension tests, and that the post-oral reading cloze test represents a valuable link between oral reading performance and comprehension performance. His study indicates that post-oral reading cloze testing is useful in distinguishing oral reading miscues that relate to literal comprehension performance from those miscues that do not. Myers (1976) reviewed the major areas of research on the cloze procedure and identified as an important milestone the development by Page (1975) of the post-oral reading cloze test as an objective method of observing comprehension.

Believing that diagnosis is most valid in a teaching rather than a testing situation and that cloze procedures are effective in teaching as well as in testing, Gunn and Elkins (1976) devised a series of exercises to be given regularly by teachers in their third-grade classrooms. Exercises included word attack, sentence completion, and vocabulary-development tasks. Also included were exercises which drew

attention to the role of function words and checked students' understanding of the relationships expressed. Results suggested that besides its diagnostic value, the cloze procedure was also effective in raising the students' reading comprehension skills (as measured by standardized tests) after both an initial and a subsequent period of eight weeks of treatment. It may be inferred that the task demands of the exercises, the language interaction which followed, and teacher-directed attention to specific applications all contributed to growth in the conceptual and linguistic skills which influence comprehension.

Bortnick and Lopardo (1976) set out to suggest to teachers how the cloze procedure can be used in the classroom. They felt that a major instructional advantage of the cloze procedure was that the instructional passages could be taken from the students' own assigned texts. A summary of this procedure was given in terms of the following directions to the students:

(1) Read through the entire cloze passage silently. This will help to make maximum use of redundant information and contextual cues

throughout the passage when students later attempt to fill in the cloze blanks;

(2) Reread the cloze passage writing in words you think fit the blanks. All semantically and syntactically acceptable responses are taken;

(3) Try to offer reasons for your choices for these blanks. It is not necessary to discuss every item in a passage. The teacher may pick certain deletions for discussion;

(4) Compare your choices with the original passage. In this comparison, discussion and teacher guidance will focus on whether meaning is affected by the acceptance of certain responses;

(5) Be prepared to discuss both passages (p. 299).

Zintz (1977) felt that a useful variation of the cloze procedure was to delete preselected words, such as every Nth noun, verb, adjective or adverb. On the other hand, O'Reilly and Streeter (1977) presented the results of a series of exploratory factor analyses of a new test of reading comprehension, using a multiple-choice cloze format which was administered to

students in grades one to six. These analyses were conducted in the validation of a test designed to measure a factor of literal comprehension independent of IQ and inferential reading processes, yet marked by certain related types of test items included in standardized and other measures of literal comprehension (p. 45). The factor analytic results of this study supported the conclusion that multiple-choice cloze measured literal comprehension, a trait that is essentially independent of IQ. This study also determined, however, that the multiple-choice-cloze has minor influence on inferential reading skills and language mechanics.

To assess whether gains in word recognition, vocabulary development and reading comprehension would result from the use of the cloze procedure as a teaching technique, Johns (1977) randomly assigned 222 students in 12 fourth-grade classrooms to one of four groups - a control group and groups that were taught with cloze deletion patterns involving deletion of every tenth word, deletion of modifiers, or deletion of nouns, verbs, or both. After a twenty-five week period, Johns found no significant differences in word

recognition, vocabulary development and reading comprehension among the four groups. However, Johns concluded that teachers may use many strategies to employ the cloze procedure and, in spite of the results of his study, he believed that cloze still has potential as a teaching technique.

Teachers are often at a disadvantage with students who are having difficulty comprehending what is read (Blachowicz, 1977). What teachers find lacking are specific procedures to develop students' comprehension strategies. Realizing that the deficiency existed, Blachowicz (1977) suggested four specific cloze activities to help students with reading comprehension. These he identified as oral cloze, the zip procedure, the maze procedure and the synonym cloze procedure.

The oral cloze procedure involves deleting selected words from high interest selections or stories read aloud. Only selected content words such as nouns, verbs, or adjectives are omitted and the students supply possibilities for these omitted words.

In the zip procedure, stories or passages are written on an overhead projection transparency.

Masking tape is used to block out deleted words. As the children predict and discuss the masked words, the tape is pulled (or "zipped") so that the readers receive immediate feedback from the text.

The maze procedure does not delete words. Rather, two distractors are supplied for each chosen item, providing a limited but manageable choice format for the student. The first exercises should provide clear, unambiguous choices. As children become more comfortable with the procedure, more sophisticated exercises can be structured.

The synonym cloze procedure closely resembles the standard cloze procedure. In the cloze passages, words are deleted and replaced with lines of a standard length. A synonym or a synonymous phrase is placed under the space.

For many years reading comprehension tests have been used with little concern for construct validity. More recently, educators have begun to question these measures. Bormuth (1970) suggested using systematic procedures for constructing items. Deck (1977) pointed out that this lack of concern for construct validity stemmed from the lack of a clear model of

comprehension. Smith (1977) proposed using the deletion of words in sentences (cloze procedures) as an appropriate procedure for measuring the reader's use of contextual information, since the reader can supply the missing word only if he/she uses semantic and syntactic cues provided by the preceding portion of the passage. Deck (1977) investigated the validity of the cloze procedure in circumstances where the procedure was controlled to delete words that require a deeper understanding of the context before the reader can supply the missing word. One hundred and twenty-six third-grade and 122 sixth-grade students were chosen. Deck determined that while the sixth-grade students were more skilled, both groups could use contextual information to reduce uncertainty. Deck found that when words were deleted that required a significantly high understanding of the context before the reader would be able to supply the missing word, a more narrow range of missing words was properly supplied than in circumstances where less significant words were deleted. Deck suggested that the procedure was valid and reliable, but that further testing was necessary to determine its full potential.

Researchers (Bortnick and Lopardo, 1976; and Blachowicz, 1977) have suggested methods of employing the cloze procedure in classroom teaching. Weaver (1978-79) suggested the use of a modified cloze procedure with students who have difficulty with particular types of words in prose passages. His idea was that words that present difficulty should be deleted from a passage in order to focus attention on their usage. Weaver maintained:

> When students fill in the blanks in a cloze exercise they make use of semantic and syntactic context clues to determine the missing words; therefore, working with students on cloze exercises is a useful way to building their ability to use context clues in their reading (p. 632).

Richardson (1980) also examined the cloze procedure as a technique for classroom teaching. He believed that although the cloze test had generally been used to measure reading comprehension, it would be equally appropriate for use as a teaching tool to improve comprehension skills. He felt that teachers might adapt passages to specific students, purposes,

content areas, vocabulary or concepts, as long as the words in the passage were part of the child's spoken vocabulary. The pattern of deletions used would tend to assist the pupil in acquiring specific comprehension skills. Richardson looked at the zip procedure as a technique for introducing the cloze passage and suggested that discussion should follow this technique to permit students to indicate why the word they provided may be more suitable. Richardson suggested practice sessions of at least twice a week extending over one semester in order to improve comprehension skills.

Fitzgerald (1980) examined the diagnostic potential of a structured cloze test used in the reading measure of the New York State Regents Competency Testing Program. Two passages at the third and fifth grade levels were administered to 12 low-achieving, fifth-grade students, first in a standardized cloze format requiring the students to generate responses and next, in a structured cloze format requiring the recognition of the correct response. Results indicated that both recognition tasks produced higher mean scores than did the

generation tasks. The analysis of types of context cues indicated that repetition resulted in the highest percentage of correct responses with the recognition task.

Steffensen's (1981) study investigated one aspect of speech/reading comprehension between the ability to select the correct standard English verbal endings (-s and -ed) and the ability to recognize the tense of a passage when time information was encoded primarily in the verbs and adverbs. Subjects were 135 third, sixth and ninth grade students, who on the basis of a sentence repetition task had been rated as either black English vernacular (BEV) or standard English (SE) speakers. The students were first asked to complete cloze passages in which content words were deleted and verbs in the past and present tenses were deleted. In a second task, the student supplied time adverbials for 15 short paragraphs written in the past, present, or future tenses. On the cloze task, BEV speakers had significantly more errors in selecting the appropriate time adverbial on the basis of tense. These findings were attributed to differences that existed in the verbal systems of SE and BEV.

The effects of the cloze procedure on immediate and delayed recall of good and poor readers were studied by McGee (1981). Easy cloze passages were designed so that all cloze deletions were successfully supplied by approximately 75% of 78 students used in a norming process. Twenty third-grade good and twenty fifth-grade poor readers read and recalled an easy cloze and a normal, non-cloze version of two expository passages. Recalls were scored according to an analysis of discourse procedure. Results indicated that fifth-grade poor readers remembered more than did third-grade good readers immediately after reading and after a one-week delay. Moreover, fifth-grade poor readers remembered more from reading an easy cloze passage than from reading a normal passage in immediate recall.

Sadoski (1982) studied the relationships between four indicators of reading comprehension: students' oral recall of a story, miscues, a post oral-reading cloze test, and a passage dependent multiple choice test. Forty-eight fifth-grade students of different abilities orally read a complete basal reader story. A comprehension process (miscue) score was derived for

each student, and the students were given the remaining comprehension tasks in counterbalanced order. Six research questions using multiple regression techniques were used to examine the relationships between the indicators and the students' subscores in the oral recall format for stories as specified in the miscue analysis procedures. Sadoski established a corroborative framework between the various indicators, using correlation to establish concurrent and predictive validity. The study suggested a degree of construct validity for the indicators used and supported miscue theory and levels-of-processing theory in reading comprehension.

In another study, Sadoski (1982) examined the relationships between reported imagery and the comprehension and recall of a story. He suggested that self-reported story climax imagery is related to deeper levels of processing on reading comprehension measures that do not rely disproportionately on verbal reasoning processes.

Sampson et al (1982) examined the effectiveness of instructional cloze in improving reading comprehension, strengthening word recognition and

vocabulary development and encouraging divergent thinking in third-grade students. On the basis of their findings, the researchers maintained that the experimental group did significantly better than the control group on both reading comprehension and divergent thinking. There were, however, no significant differences between the two groups in word recognition and vocabulary development.

Summary

The cloze procedure was first introduced by Wilson Taylor in 1953 as a tool that would offer a new approach to determining the readability of prose material. Here the cloze procedure helped to determine objectively the difficulties readers encountered in prose passages by investigating the possibility of employing estimated redundancy rates to assess passage difficulty.

A number of studies have dealt with the application of the cloze procedure as a technique for teaching in the classroom. A major advantage of the cloze procedure as a teaching tool is that cloze passages can be taken from the students' current materials. Some researchers have suggested a modified

approach with students who have difficulty with particular types of words in prose passages. This approach included deleting from a passage the words that presented difficulty in order to focus attention on their usage. Other studies have shown significant increases in reading comprehension when cloze procedure exercises were utilized.

The uses of the cloze procedure for instructional purposes are numerous and varied. For instance, students may work together when filling out cloze tests and thereby learn from each other the use of semantic and syntactic strategies in determining proper responses. The completed cloze tests whether filled out by students individually or in groups, can be effectively employed in the classroom to promote students to discuss and give reasons for their responses. Also, cloze testing over different areas of the curriculum can help students to focus on differences between language and style. The effectiveness of the cloze procedure as a method of teaching vocabulary and word recognition and as a measure of the reader's use of contextual information has also been assessed. Data on these studies have

indicated that the cloze procedure was effective in teaching vocabulary and word recognition, since superior vocabulary gains were achieved. More recent studies have examined the effectiveness of the cloze procedure in improving reading comprehension and encouraging divergent thinking. Results have shown a significant increase in both of these areas when the cloze procedure was employed.

Although it is generally accepted that the cloze procedure is a valid research tool and has practical application in the classroom as an evaluative, diagnostic and instructional tool, it is important to recognize its limitations. There is no research that conclusively proves the effectiveness of the cloze procedure in improving students' reading skills. Some studies have shown good results while others have shown no significant results. The cloze procedure is not a valid measure for students who lack word recognition and vocabulary development skills and while some researchers have suggested that the cloze procedure should not be employed below the fourth-grade level, it would appear more appropriate to base the decision to use the cloze procedure directly upon an assessment of

the students' word recognition and vocabulary development skills without reference to grade level.

CHAPTER III

Methodology

This chapter will deal with the methods used in conducting this ten week study. Included is a description of the subjects, a profile of each subject, test data and test scores for each, a description of the use of materials, the introduction of the cloze procedure, a discussion of the administration of the cloze procedure, the cloze scoring method, and the selection of post-tests.

To protect the identity of the five subjects involved in this study, each subject has been given a fictitious name.

Description of Subjects

Participants of this study were five fifth-grade students from an elementary school in Conception Bay, Newfoundland. These students attended a regular classroom for all subject areas of the curriculum except the Language Arts Program. For this program they attended a Learning Resource Room where individual help was given daily by a Special Education teacher. Through teacher observation and standardized testing in reading, it was deemed necessary that these students

should receive extra help, either on a one-to-one basis or in a small-group situation. Because they were reading below grade level by two or three years and were not utilizing contextual clues to obtain meaning, the researcher felt that these students would be good candidates for the present study.

Student Profiles

Sharon

Sharon was ten years, five months old when she was referred by her classroom teacher for private diagnosis and remedial teaching. She had been experiencing difficulty since grade two because of persistent lack of progress in reading comprehension. In addition to school efforts, Sharon's mother had tried unsuccessfully to teach her, and the complete failure of all efforts convinced the parents that help was needed. A series of informal reading assessments were given by the Guidance Counsellor and Language Arts Coordinator. When asked to read orally a passage from the grade five Nelson Program Northern Lights, and Fireflies, Sharon read very slowly and hesitantly in a word-by-word fashion. She tended to substitute or add familiar words and phrases rather than read the precise

text. Her sight vocabulary was limited and she did not make any attempt to decode new words. She knew the sounds of all consonants and vowels; her blending ability was good. Typical word recognition errors were **has** for **is** and **it** for **in.** There were a few reversals such as **was** for **saw.** Consequently, with the cooperation of the school and her parents, Sharon was chosen as a candidate for the present study. An effort was then made to use the cloze procedure exercises as a tool to help improve her areas of weakness.

Ellen

Ellen was nine years, eleven months old when she was referred by her classroom teacher for reading diagnosis. The Guidance Counsellor, together with the Language Arts Coordinator, gave Ellen a series of informal reading assessments. When tested on oral reading in a series of graded readers, Ellen made a great many errors. Her reading was slow, inaccurate, and expressionless. Most of her errors were mispronunciations, with some omissions and repetitions. She seemed to try to sound out unfamiliar words through the use of phonics. She did at times confuse |m| and |n|, and |b| and |d|. In a sample phonics lesson she

had difficulty with some of the individual letter sounds but showed excellent blending ability.

Although she tried to use a phonics approach, many of Ellen's attempts at spelling showed a lack of phonic awareness. Consequently she had been placed in a remedial reading group for two school terms but was making very little progress in reading. Her parents were contacted, and permission was granted for the investigator to include Ellen as a candidate for the present study. In the study, cloze procedure exercises were used as a tool to help improve Ellen's word recognition skills, vocabulary development and comprehension abilities.

Brenda

Brenda was nine years, ten months old when she was referred for clinical diagnosis by her classroom teacher as a result of her lack of progress in reading. The Guidance Counsellor, in conjunction with the Language Arts Coordinator, performed several individual educational assessments on Brenda. When reading aloud, she tended to hesitate and repeat frequently, and made many errors in word recognition and vocabulary development. She read word-by-word in a monotone. In

silent reading she read very slowly and with lip movements.

Tests of phonic knowledge showed that she was unfamiliar with some of the short vowel sounds and with some consonant sounds. A marked confusion between |m| and |n| was evident. She tried to attack new words by spelling them and by guessing from the general configuration or the beginning of the word. Some errors were **him** for **her, window** for **wander, passing** for **passenger.** In sample lessons she did well with both a phonic approach and a visual-motor method of word study. Her spelling was at second-grade level, and involved confusions, phonic inaccuracies, and disregard of word endings similar to the errors in her reading. As a result she had difficulty coping in the regular classroom, and was placed in a Special Education Classroom. Her mother was contacted and seemed very pleased that Brenda was receiving help. She granted permission for Brenda to be included as a candidate for the present study. The cloze procedure exercises were used in an attempt to reduce Brenda's difficulty with reading.

Simon

Simon was eleven years, six months old when he was referred for a diagnostic examination to study his disability in reading and spelling. He was already a year older than his classmates in the fifth grade. The Guidance Counsellor and the Language Arts Coordinator performed a number of individual educational assessments on Simon. When asked to read silently he read very slowly and with lip movements. When reading orally, he hesitated and repeated frequently, making many errors in word recognition and vocabulary development. He seemed to try to sound out unfamiliar words, using phonemic strategies. His knowledge of phonics, however, was very weak. He often confused the |b| and |d| and the |p| and |q|. He tried to attack new words by spelling them and by guessing from the general configuration or the beginning of the word.

Simon's parents were very concerned about his difficulties in both reading and spelling. With their permission and with the permission of the school, Simon was chosen as a candidate for the present study. As a tool to help improve Simon's word recognition, vocabulary development and comprehension abilities,

cloze procedure exercises were used.

Grant

Grant was ten years, two months old when he was referred for individual diagnosis and remedial teaching because of his lack of progress in his schoolwork, especially in reading. The Guidance Counsellor in conjunction with the Language Arts Coordinator, performed several individual educational assessments on Grant. In oral reading he often hesitated and repeated words frequently. His reading was slow, halting, inaccurate, and expressionless. Most of his errors were mispronunciations, with some omissions and repetitions. Grant seemed to try to sound out unfamiliar words, using phonemic strategies. His knowledge of phonics was meager. He confused |b| and |d|; |p| and |q|; and |y| and |w|. He tended to pronounce all vowels as |uh|. The only two-letter combinations he could pronounce were |ee| and |oo|. As a result of his lack of knowledge of letter sounds and phonograms, his phonic efforts were almost always unsuccessful.

In spelling, he tried to use a phonic approach, as shown in such attempts as **yous** for **us**, **lev** for **leave**, and **bot** for **bought**. Letter confusions were

shown in errors like **sona** for **summer**, and **moit** for **night**.

As a result of his difficulties with reading comprehension, word recognition and vocabulary development, Grant was placed in a Special Education Classroom for the total Language Arts Program. It was felt that this type of classroom would meet his individual needs. Permission was granted by the parents and the school to include Grant as a candidate for the present study. Various types of cloze procedure exercises were given to Grant to help with his areas of weaknesses.

Test Data

The test data gathered on each student consisted of The Wechsler Intelligence Scale for Children, Lorge-Thorndike Intelligence Test, Canadian Test of Basic Skills and The Gates-MacGinitie Reading Test. The overall testing results placed each student slightly below average ability in word-recognition, vocabulary development and reading comprehension skills on The Gates-MacGinitie Reading Test and The Canadian Test of Basic Skills. Weaknesses were shown in both the verbal and non-verbal subtests of The Lorge-Thorndike Intelligence Test.

A study of their miscues as they orally read passages from The Classroom Reading Inventory by Silveroli (1980) indicated that none of the students were using context clues to obtain meaning.

Table 1

Scores on The Wechsler Intelligence Scale for Children (1984)

Students	Verbal	Non-Verbal	Full-Scale
Sharon	80	85	82
Ellen	82	90	86
Brenda	75	80	78
Simon	95	90	93
Grant	95	101	98

Table 2

Scores on The Lorge-Thorndike Intelligence Test (1984)

Students	Verbal	Non-Verbal
Sharon	80	82
Ellen	80	85
Brenda	80	82
Simon	92	95
Grant	90	104

Table 3

Scores on Vocabulary and Comprehension Subtests on The Gates-MacGinitie Reading Test (March, 1984)

Students	Vocabulary	Comprehension
Sharon	3.3	3.2
Ellen	3.0	3.5
Brenda	2.0	2.4
Simon	3.2	3.0
Grant	2.9	3.0

Table 4

Scores on the Comprehension Subtest of The Canadian Test of Basic Skills (March, 1984)

Students	Comprehension
Sharon	3.0
Ellen	3.2
Brenda	2.5
Simon	3.0
Grant	3.2

From studying the results of the standardized testing and their miscues in using The Silvaroli Reading Inventory, the researcher observed that these five remedial students shared similar problems. They all encountered difficulty in word recognition, vocabulary development and reading comprehension. A study of the school records indicated that they all were very close in age and had similar cultural and social backgrounds. Based on this information, the researcher considered it necessary to employ a procedure that would help overcome their difficulties related to reading. Since a major difficulty seemed to be lack of utilization of contextual clues to obtain meaning, the researcher decided to relate a number of short stories to various aspects of the cloze procedure to aid in the development of the use of context clues.

Materials

During a discussion period, prior to the study, the students indicated their most favoured stories. These stories were related to animals, fantasy, history and science. Therefore, for their study, the students were given a series of short stories related to their

interests. These stories were obtained from The Scientific Research Associates Rate Builders Collection, the students' basal reading series and various library books (see Appendices, pp. 179 - 223 for samples). The stories ranged in length from 60 - 270 words, with five to ten deletions per story.

The Scientific Research Associates Rate Builders, which are part of the SRA Reading Laboratory Kit by Parker (1969), consisted predominantly of concise non-fiction selections covering a wide range of topics. Included were items on physical, biological and social sciences, history, and human interest. Each selection was assigned a reading difficulty level by SRA based on the SRA Reading Formula, sometimes in conjunction with other reading formulae such as the Spache (1953) or Lorge (1944) formulae. Initially, thirty passages were selected at random with difficulty levels ranging from second to fifth grade level. The length of the passages varied from 75 words for second grade passages to 200 words for fifth grade passages. Only twenty of these thirty passages were given to the students (See Appendices, pp. 181, 182, 183, 189, 192, 194, 196, 198, 200, 202, 207, 208, 209, 211, 214, 216, 217, 221, 222,

223 for passages).

The basal reader selected for this study was the students' own reading text. It was The Open Highways Series, Discovering Treasure, Level 5 (Gage, 1974). Discovering Treasure was geared to meet the needs of students who were encountering difficulty in reading, and had a readability level of grade three. Each of The Open Highways Series is two years below the grade level in readability. The reading selections chosen included a variety of forms-stories, poems, plays, articles and interviews. After each selection opportunities for productive group experiences and for individual related activities were provided. Initially, ten passages were selected for the present study, with difficulty levels ranging from second to fifth grade, according to the Fry Readability Formula. Passages ranged in length from 80 - 200 words - 80 words at the second grade level and 200 words at the fifth grade level. Only five of these ten passages were given to the students (See Appendix, pp. 190, 195, 203, 212, 218 for passages).

Ten library books from the Curriculum Materials Center at the Memorial University of Newfoundland were

chosen for this study. The particular books were chosen because of their interest appeal. Realistic animal stories, fantasy, folk tales, and myths were selected. The grade level of the stories, based on the Fry Readability Formula, ranged from 2.0 to 5.0. The passages ranged in length from 60 words for the 2.0 grade level to 270 words for the 5.0 grade level. Only four of the ten stories selected were given to the students (See Appendix, pp. 185, 186, 187, 205 for stories).

Introduction of the Cloze Procedure

Throughout the ten week study the investigator employed cloze procedure exercises with each of the five remedial reading students. The cloze procedure was used as a means of improving the ability of these remedial reading students to use context clues in word recognition, vocabulary development and reading comprehension. Each week of the study a new cloze procedure was employed, utilizing various deletion methods such as deletion of nouns, verbs, adjectives, and adverbs from reading passages; deletion of vowels from selected words; selected words with only the initial consonant included; one underline for each

letter omitted; every Nth word deletion, example, every tenth word, and N% of the words at random, example, random deletions. The cloze exercises were completed during three one-half hour sessions per week for the duration of the study.

The researcher spent the first week of the study getting acquainted with the students, building a rapport, and introducing them to the cloze procedure. She explained the meaning of the cloze procedure, giving numerous examples from the chalkboard. During the next session, the researcher read a fantasy story entitled Amelia Bedelia by Peggy Parish, deleting words as she read. The students were to write down what they thought the missing words would be. When the story was completed, the students were invited to suggest appropriate words for the blank spaces, and to discuss why certain words were chosen over others. The students were all familiar with the story read, therefore they contributed reasonable responses to the discussion. Upon completion of this exercise, the researcher took the students to the school library to choose books they wanted to have read. A paragraph from each student's book was read orally by the

researcher. Words were deleted and students said or jotted down what they thought the deleted words were. At the completion of these deletions the students were involved in a discussion of why certain words were or were not appropriate.

Throughout the ten week study, various cloze passages, involving both oral and written communication, were given (See Appendix, pp. 180 - 183 Oral Context). Deletions included (1) content words such as nouns, verbs, adjectives and adverbs, (2) vowels from selected words, (3) selected words with only the initial consonant included, (4) omission of letters from words, (5) deletion of every tenth word and (6) random deletion of words.

The students involved in this study took a long period of time to complete each task, and were therefore given only one cloze passage a day to complete and discuss. The researcher considered it important that the participants be allowed sufficient time for the exercises. This approach is supported by Schoelles (1971) who maintained:

A student must comprehend what he is reading to

> do well using the cloze procedure. However, there is no time limit on the cloze, hence the slow, careful reader scores well while the fast random guesser does not (p. 79).

Administration of the Cloze Procedure

The use of the context cue is a powerful word recognition and vocabulary development strategy both for the beginning reader and the more advanced reader. Moreover, it is a strategy that is most often employed by the efficient adult reader (Bortnick and Lopardo, 1973). As a result instructional programs in reading at all levels should provide for systematic instruction in this word recognition and vocabulary development strategy. The cloze procedure, therefore, lends itself to instruction in the use of contextual cues as a reading strategy. It can also be effectively used to teach other aspects of the reading program such as word analysis and vocabulary development. The researcher administered the cloze technique in this study by adapting the procedures followed by Donald Richardson (1980) and the procedures followed by Robert Bortnick and Genevieve Lopardo (1973). The procedural steps were:

(1) To help motivate the students, the researcher provided some information about a passage and a general indication of its content;

(2) Oral context was then employed. Here the researcher read passages orally and discussed word-by-word why certain words seemed to be appropriate for a given blank and why other words were inappropriate;

(3) Next, the researcher read an oral passage and asked the students to record their answers in written form. Discussion followed;

(4) The researcher then presented a passage in written form with a selection of words for each blank. Students were asked to underline the word they thought most appropriate for the blank. Discussion followed;

(5) The students were given an entire cloze passage and were instructed to read this passage silently. The students then attempted to fill in the cloze passages, writing in words they thought would fit the blank. All semantically and syntactically appropriate responses were accepted.

Afterwards, the students were asked to offer reasons for their choices. The researcher chose certain deletions for discussion;

(6) The students were then asked to compare their choices with the original, unmutilated passage.

The preceding instructional procedure was then varied in this study by the use of different types of cloze passages to focus on different aspects of reading instruction. The researcher therefore presented the written context with the following deletions included:

(a) Cloze passages were prepared deleting certain content words such as nouns, verbs, adjectives and adverbs. This was to focus instruction on the syntactic constraints of the language;

(b) Cloze passages were prepared, deleting parts of words to help focus instruction on word analysis strategies; for example, deleting all of the letters in a word except the initial consonant;

(c) Cloze passages were prepared using one underline for each letter omitted in the

deleted word. This was another means of focusing instruction on word analysis strategies;

(d) Cloze passages were prepared in which items containing certain phoneme-grapheme correspondences were deleted, for example, all the vowels from selected words. This was also used to focus instruction on word analysis strategies;

(e) The researcher presented written context with random deletions. The deleted words were listed at the bottom of the page and students supplied the appropriate words in written form. Discussion followed;

(f) The researcher presented in written form the context containing tenth-word deletions. The students then responded to these deletions. Discussions followed.

Random deletions and tenth-word deletions were employed to give the researcher a better idea of how well students could comprehend passages when only a certain number of words intervened between each item. The smaller cloze passages of about 60 - 100 words had

both the first and last lines intact, while the longer passages of 150 - 270 words had the first and last paragraphs intact.

Cloze Scoring Method

Each child received two scores, one based on the number of exact responses and one based on the number of acceptable synonyms. Synonyms were allowed because the researcher wanted to focus instruction on word recognition and vocabulary development. Supplied words were counted as correct despite spelling errors, if the supplied words were clearly recognizable and appropriate.

For the purposes of this study, the researcher accepted the following definitions: Synonym: "A is a synonym of B if A and B have the same meaning " (Asher et al. 1976). Synonyms in context: "A and B are synonyms in the context of a passage if they maintain the meaning of the sentence and of the passage intended by the author" (Asher et al. 1976).

Therefore, in judging whether or not words were synonyms in the context of the passage, the researcher checked that part of the passage immediately before and immediately after the blank.

In judging words as synonyms, spelling errors did not count unless they led to a change in tense or number. For example **choose** and **boys.** The synonym in context was to be of the same tense and number as the original word; thus **was** and **is** are not synonyms in context nor are **is** and **are.** The words were also to be of the same grammatical case; thus **we** and **us** are not synonyms in context. As well, the synonyms were to be grammatically correct with respect to the sentence, thus **a** and **an** would not be synonyms.

Selection of Post-Tests

During the final week of this study, post-testing was done to further evaluate each student's reading comprehension and to determine group gains at the end of the study. Two types of testing were given: The Gates-MacGinitie Reading Test, Level D, Form 2, Canadian Edition and experimenter-written cloze tests using tenth-word deletions. The material utilized for the cloze tests consisted of three 184 word passages ranging in readability grade levels of 4.0 - 4.5. These passages were taken from the SRA Rate Builders and included the topics of science and history.

Each student was given a copy of the three cloze

passages and was told that all three passages must be completed in sixty minutes. The researcher allowed for exact responses and appropriate synonyms when scoring these cloze passages. All five students completed the three passages in one session and the vocabulary and comprehension subtests of The Gates-MacGinitie Reading Tests in two class sessions.

Summary

The participants of this study were five fifth-grade students from an elementary school in Conception Bay, Newfoundland. These students attended a regular classroom for all subject areas of the curriculum except the Language Arts Program. Because they were reading below grade level by two to three years, they attended a Learning Resource Room where individual help was given daily by a Special Education teacher. From studying the results of the standardized testing and their miscues using The Silvaroli Reading Inventory, the researcher observed that all five remedial students shared similar problems. They all encountered difficulty in word recognition, vocabulary development, and reading comprehension. A study of the school records indicated that they were very close in

age and had similar cultural and social backgrounds. With this evidence, the researcher felt it necessary to employ various cloze procedure exercises to help overcome difficulties related to reading. Various deletion methods of the cloze procedure were given over the ten week period of the study.

To further evaluate each student's reading comprehension and to determine group gains at the end of the study, post-testing was done. The two types of testing were The Gates-MacGinitie Reading Test, Level D, Form 2 and experimenter-written cloze tests using tenth-word deletions. All three cloze passages were completed in one session and The Gates-MacGinitie Reading Test in two class sessions.

CHAPTER IV

Analysis of Data During Ten Week Study

Introduction

The purpose of this chapter is to provide a detailed analysis of the data gathered during the ten weeks of the study. Each week a new cloze procedure was employed, utilizing various deletion methods. During week one oral context was introduced as a motivational technique for the introduction of the cloze procedure; during weeks two, three, four and five content words namely nouns, verbs, adjectives, and adverbs were introduced, while in weeks six, seven, and eight the cloze procedure was utilized to help students improve their word analysis strategies. The procedures used were vowels from selected words; selected words with only the initial consonant included and omission of letters from words. Random deletions were employed during week nine to give the researcher a better idea of how well students could comprehend passages when a certain number of words intervened between each item. During week ten, tenth-word deletions were introduced for the purpose of assisting the students in acquiring specific comprehension

skills. Each week short reading passages were given, with specific instructions for these passages.

Week 1: Oral Context

During the first week of this study and throughout subsequent weeks, students met for three one-half hour sessions per week. The school cafeteria was designated as the meeting place, since it was the only space available. The sessions were held on Monday, Wednesday and Friday from 10:00 - 10:30 a.m. The cloze technique was administered by adapting the procedures of Richardson (1980) and Bortnick and Lopardo (1973). As an introduction to the cloze procedure, the researcher began the first session of week one by explaining to the students that a passage would be taken from the grade five Open Highways Series - Discovering Treasure. The story was entitled "The Case of the Scattered Cards" by Donald J. Sobol, from the book Encyclopedia Brown. The researcher gave the students a general indication of the content of the story during which the following information was provided:

> Mr. and Mrs. Brown named their son Leroy. His teacher called him that, too. Everyone else

> called him Encyclopedia. Leroy was like an encyclopedia. His head was filled with many facts. In this story he uses his head to solve a mystery. (p. 12).

The researcher then read the story to the students, deleting words as she read. The students were given an opportunity to discuss what they thought each deleted word would be. All suggestions were written on the chalkboard. When the story was completed, the students were engaged in a discussion as to why certain suggested words seemed appropriate for a given blank and why other words were inappropriate. For example, in one case the sentence read "As soon as he had finished breakfast, he printed fifty handbills to advertise his (detective) agency," four out of five students said the word was **detective**, while one said the word was **expensive**. When they were asked why the word **detective** was used, one child explained, "Encyclopedia Brown always wanted to be a detective when he grew up; but one day he made up his mind he would not wait to become a detective, he was going to go into the detective business right away." This answer was appropriate, since it related to the context

of the paragraph preceding the deletion. The one student who used the word expenaive said that to operate an agency would be expensive. This student did not relate her answer to the context of the paragraph.

This 250-word passage consisted of ten deletions and had a readability level of 3.0 on the Fry Readability Scale. The first and last paragraphs were left intact. Since this passage was used as an introduction to the cloze procedure, enough information was provided in the first and last paragraphs to allow the students to relate their deletions to previous context, and to give them encouragement in getting most of their deletions correct. Furthermore, the students had prior knowledge of this passage because their classroom teacher had dealt with it in class.

The average score of 86% on this passage indicated that students were utilizing context clues to answer the deletions. However, the researcher felt that this high performance level might, in part at least, be attributable to the fact that this passage had already been dealt with in the regular classroom by the classroom teacher. Also, both the first and last paragraphs were kept intact to provide enough

information about the context so that students could better comprehend what they were reading. Students did not use synonyms in this passage even though appropriate synonyms would have been accepted.

Because the researcher was interested in finding out how well the students would perform on the cloze procedure, given an unfamiliar passage, a passage consisting of 64 words and ten deletions was given. This passage had a readability level of 2.6 and was taken from the SRA Rate Builders. The title was "Elephants Live in Zoos." As the researcher read the passage, omitting words while reading, students were asked to record their answers in written form.

The following table indicates the percentage of exact responses.

Table 5

Exact Responses for the Passage "Elephants Live in Zoos"

Students	Percentage of Exact Responses
Sharon	70%
Ellen	80%
Brenda	70%
Simon	60%
Grant	70%

The average score of 70% indicates that students did not do as well with this passage as with the first, even though the reading level was lower. The researcher postulated that this was because the passage was unfamiliar to the students.

Some of the incorrect deletions did not relate to the context of the passage in "Elephants do many things at school. They learn their NAMES." Only two students used the context of the sentence to get the word **NAMES**. The other students used words such as **friends**, **school**,

homework. In addition, these students were unsure of their reasons for choosing the words they did. They expressed surprise at the suggestion that elephants went to school and were given names.

A second passage was presented to the students. This time the researcher presented the passage in written form with a selection of words for each blank. Students were asked to underline the word that they thought most appropriate for the blank. This 87-word passage taken from the SRA Rate Builders was given the title "Desert Camels." It consisted of eight deletions, with a readability of 2.8. Students were asked to work individually on the passage and were instructed to choose for each deletion one of the three words enclosed in brackets. Three students had seven out of eight deletions correct while two students had six out of eight correct. When the students were asked to review the passage to find better answers, all students found the correct answers. A discussion of the deletions indicated that some students were using context to find the exact responses. An example of this may be seen in the following: "This makes him worth a great deal to the people of the (land, country,

desert)." One student explained that "Since camels usually live in deserts," **desert** was the better word. The percentage of exact responses is shown in Table 6.

Table 6

Exact Responses for the Passage "Desert Camels"

Students	Percentage of Exact Responses
Sharon	87.5%
Ellen	87.5%
Brenda	75%
Simon	87.5%
Grant	75%

The average of 82.5% on this passage indicated that the overall performance of the students was good.

In the third passage the students were first instructed to read the passage silently. This was to help make maximum use of redundant information and contextual clues. Next, students were instructed to fill in the cloze passage, writing in words they

thought would fit the blanks. All semantically and syntactically acceptable responses were taken. This 66-word passage, taken from the SRA Rate Builders, and given the title "The Sport of Fishing," consisted of eight deletions. Its readability level was 2.8. The average score of 80% indicated that the students were performing fairly well and that some students were relating what they read to their personal experiences. For example, one sentence read "The boys put all the fish in a basket." In this sentenee four out of five students used the correct word, while one student used the word **frying pan.** When asked why **basket** was used, one student explained that when they went fishing with their father or their friend, they usually take a basket with them and they put all the fish they catch in this basket. The student who used the word **frying pan** said, "The boys were going to fry the fish to eat, so they were going to use the frying pan. I always eat my fish fried." Although this student was relating his reasoning to his personal experience, he was not using the context of the passage to get meaning from his reading. Therefore his answer was incorrect. If this student had related the next sentence "They took ten

fish home" to the first sentence, he probably would not have used the word **frying pan.** All of the eight deletions were discussed and compared with the original, unmutilated passage. Table 7 gives the percentage of exact responses.

Table 7

Exact Responses for the Passage "The Sport of Fishing"

Students	Percentage of Exact Responses
Sharon	75%
Ellen	87.5%
Brenda	87.5%
Simon	75%
Grant	75%

Week 2: Noun Deletions

During week two, students were given short passages with noun deletions. Since the students had little knowledge of nouns and could not give examples, the researcher attempted to explain the noun by giving various examples on the chalkboard. Sentences were written on the board and students were to pick out the nouns from these sentences. The researcher then proceeded to read a sample passage. This 60-word passage had a readability level of 2.3. As the researcher read the passage, students were to write down the noun deletions. Upon completion, a discussion was held as to why certain nouns were or were not appropriate. Students were succcessful with this passage. As a result, the first independent passage on nouns was given. This was a 62-word passage with a readability level of 2.3. It was taken from the book Curious George by H.A. Rey, and given the same title.

There were eight deletions. Table 8 indicates the passage results.

Table 8.

Exact Responses and Acceptable Synonyms for the Passage "Curious George"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	87.5%	100%
Ellen	87.5%	87.5%
Brenda	75%	75%
Simon	75%	87.5%
Grant	75%	87.5%

Students scored well on this passage, with an average score of 80% on exact responses and 87.5% on acceptable synonyms. This high performance may be due to the fact that students were familiar with the "Curious George" stories and that the average readability level of these stories was only 2.3. Many synonyms were used in this passage. One example can be found in the sentence "Curious George is a funny

animal. He likes to swing on a rope." Three students replaced **rope** with **branch.** The word **branch** did fit the context of the sentence and was also a noun. All five students gave the correct response **animal.**

Since the students had done fairly well with this particular cloze passage, the researcher decided to give a longer passage at a higher readability level. This time she chose a ghost story entitled, "The Ghost of the Dutchman." This 179-word passage had a readability level of 2.7 and consisted of ten noun deletions. Students worked independently on these noun deletions, coming as close as possible to the spelling of each word. Table 9 gives the results.

Table 9

Exact Responses and Acceptable Synonyms for the Passage "The Ghost of the Dutchman"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	70%	90%
Ellen	70%	90%
Brenda	80%	80%
Simon	80%	90%
Grant	60%	80%

The average score of exact responses in Table 9 was 72%, while the average score of acceptable synonyms was 86%. Four students scored lower on exact responses than on acceptable synonyms. The synonyms seemed to indicate that these students were relating their selections to either the sentence or paragraph coming before or after the selections. All students used nouns, even the incorrect selections were nouns. In

the sentence reading "The wind was blowing off the water," three students replaced water with the noun river. They felt this was the most appropriate word because it was mentioned in the previous sentence "The building was built out over a river."

The third passage given for this week was a 183-word passage entitled "The Screech Owl." This passage consisted of eight deletions with a readability of 3.0. Table 10 records the results.

Table 10

Exact Responses and Acceptable Synonyms for the Passage "The Screech Owl"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	75%	87.5%
Ellen	75%	87.5%
Brenda	87.5%	100%
Simon	62.5%	75%
Grant	62.5%	75%

The average score on exact responses was 72.5% while the average score on acceptable synonyms was 85%. Three students did well on exact responses, while two students encountered some difficulty. However, the scores for these two students increased from 62.5% to 75% when synonyms were accepted. As well, the majority of the students gave appropriate reasons for their word choices and for justifying the use of some words over

others. For example in the sentence reading "His toes have sharp, pointed claws," three students replaced the word **claws** by **nails**. Because the word **toes** was used in the sentence, the students immediately associated **toes** with **nails** to get **toe/nails**. In the sentence "They are fine for hearing very soft sounds at night," the word **sounds** was replaced by the word **noises**. Although there were some suggested words that could not be used as synonyms, the reason given for using such words did indicate that students were thinking about their passages. One example of this can be seen in the sentence "The owl can catch a mouse in his claws." **Claws** was replaced with **hole** by one student because when she saw the word **mouse** immediately she thought of **mousehole**.

Week 3: Verb Deletions

During the third week of this study, students were introduced to verbs. A brief explanation was given to help refresh students' memory of verbs. The researcher then placed five sentences on the chalkboard and students were asked to choose the verb in each sentence. For further practice in verb recognition, students were presented with a short passage on an

overhead. This 50-word passage entitled "A Siamese Cat" was at a 2.3 grade level and had six deletions. The researcher wrote the students' word choices on the chalkboard and involved the students in a discussion as to why certain deletions were or were not appropriate. The scores ranged from 33% to 67%. All words given by the students were verbs, but usually inappropriate ones. Wrong tenses were given and singular verbs were used when plural verbs should have been used. For example, in the sentence, "Its nose, ears, paws, and tail are dark brown," only one student used the correct verb **are**, the other four students used the verb **is**. Verbs that did not relate to the context of the sentence were also used. Some verbs used were as a result of the students' dialect or local manner of speech. Several students, for example, frequently used **haves** in their speech instead of **has**. Two students used **haves** in the sentence "A Siamese cat has light brown hair." The researcher continued to give practice with verb deletions until each student showed a better understanding of verbs. When the students were ready to work independently the researcher presented them with a 60-word reading passage entitled "Susan's

Surprise." This passage had a readability level of 2.3 and consisted of eight deletions. Table 11 indicates the results.

Table 11

Exact Responses for the Passage "Susan's Surprise"

Students	Percentage of Exact Responses
Sharon	100%
Ellen	87.5%
Brenda	62.5%
Simon	87.5%
Grant	75%

The overall average of 82.5% indicates a high level of performance. Only one student had difficulty with verb deletions. This student scored 62.5% and made three errors out of eight. Two errors were incorrect verbs, while one error was an incorrect tense. The errors made by the other students were incorrect verbs. For example, in the sentence "Susan

named the monkey Billy," four students used the verb named while one student used the verb **choose.** When asked why that particular verb was used, the student replied, "Susan must have mentioned somewhere to her parents that she wanted to be given a baby monkey for her birthday, so her parents decided to throw a surprise birthday party and present Susan with this gift."

The second independent reading passage was taken from the grade five reading program entitled "Willie's Exciting Day." The Fry Readability Formula placed this passage at a 3.2 reading level. The passage had 180 words and consisted of ten deletions. Table 12 indicates students' performance when exact responses and acceptable synonyms were scored.

Table 12

Exact Responses and Acceptable Synonyms for the Passage "Willie's Exciting Day"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	80%	80%
Ellen	80%	90%
Brenda	70%	80%
Simon	70%	70%
Grant	70%	70%

The results indicated an average of 74% when exact responses were scored and an average of 78% with the scoring of acceptable synonyms. Overall a satisfactory level of performance was indicated. Two students scored ten points higher when synonyms were accepted, while the scores of the other three students remained the same. The scoring of verb deletions did not seem to encourage the use of synonyms as did the

noun deletions. Furthermore, the incorrect verbs used were either of the wrong tense or did not relate to the context of the sentence or passage. For example, in the sentence: "Sap's runnin, Sap's runnin," he shouted to his mother through the kitchen door," four students used the correct verb, while the other student used the incorrect verb placed. Each student was unsure of his/her reason for the incorrect verb.

The third independent reading passage, consisting of 100 words and five deletions, was given the title "The Eskimo Mailman." It was adapted from the SRA Individualized Reading Program. The Fry Readability Scale placed this short passage at a 3.0 grade level. Table 13 indicates how well students performed.

Table 13

Exact Responses and Acceptable Synonyms for the Passage "The Eskimo Mailman"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	90%	100%
Ellen	90%	90%
Brenda	80%	80%
Simon	70%	70%
Grant	80%	80%

Table 13 indicates an average score of 82% on exact responses and an average score of 84% on acceptable synonyms. This overall average indicates that students were coping well with verb deletions. The one synonym used in this passage was in the sentence "From June through October, the mail is carried every day over the open sea in a skin boat." The verb **brought** was used instead of **carried** by student

number 1. Since this verb did not change the context of the sentence the researcher scored this as correct, bringing student number 1 from a score of 90% to 100%.

Week 4: Adjective Deletions

Adjective deletions were introduced during the fourth week of the study. To help improve the students' recall of adjectives, the researcher explained the definition and gave examples on the chalkboard before proceeding with the first sample passage. Ths first passage was a 60-word passage consisting of eight deletions. Its readability level was 2.0. As the researcher read, the students were to write on their exercise books what they thought the deleted adjectives should be. All acceptable synonyms were scored. The researcher and the students corrected the completed passage together. The scores ranged from 37.5% to 75%. During discussion period, the students were invited to tell why certain deletions were or were not appropriate. The researcher felt that students needed more practice with adjectives before working independently. Consequently a second passage was given. This 70-word passage consisted of eight deletions with a readability level of 2.0. Once again,

acceptable synonyms were scored, and the scores ranged from 62.5% to 87.5%. All deletions were discussed before students proceeded to work on an independent reading passage. The first independent passage, entitled "Pigeons" was a 70-word passage consisting of six deletions. Adapted from the SRA Rate Builders, this passage had a readability level of 2.3. The results are indicated in Table 14.

Table 14

Exact Responses and Acceptable Synonyms for the Passage "Pigeons"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	100%	100%
Ellen	100%	100%
Brenda	82.3%	83.3%
Simon	67%	83.3%
Grant	83.3%	100%

Table 14 indicates a high level of performance by the students, with an average of 86.7% on exact responses and 93.3% on acceptable synonyms. Two students increased their scores through the use of synonyms. Simon's score increased from 67% to 83.3%, while Grant's score increased from 83.3% to 100%. A discussion of the responses revealed that most adjectives used in this passage were acceptable because they did not alter the context of the sentences. For example, in the sentence "They make a comfortable home for them near sunny windows," three students used the correct adjectives, while two used the synonyms **cosy** for **comfortable** and **bright** for **sunny**. The researcher scored these synonyms as correct, since they related to the context of the sentence.

A second passage entitled "The Farmer Astronomer" was adapted from the grade five Open Highways Reading Series Discovering Treasure. This 180-word passage consisted of five deletions and was placed at a 3.5 grade level, using The Fry Readability Formula. Table 15 indicates students' performance.

Table 15

Exact Responses and Acceptable Synonyms for the Passage "The Farmer Astronomer"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	80%	80%
Ellen	80%	80%
Brenda	70%	80%
Simon	70%	70%
Grant	60%	70%

The results show a satisfactory level of performance with an average of 72% on exact responses and an average of 76% on acceptable synonyms. During discussion period, students indicated why they had chosen certain adjectives. For example, in the sentence "On the first clear night Clyde turned the telescope toward the planet Mars," two students used the adjective **clear**, two students used the synonym

bright, while one student used the noun **night** rather than an adjective. When asked why she had used **night** since the word was already in the sentence, she explained that she did not see the word **night** and read the sentence as: "On the first night Clyde turned the telescope toward the planet Mars." When asked what part of speech the word **night** was, she replied **a noun.** The adjectives **bright** and **clear** were both scored correctly because they have a similar meaning within the context of the passage. For the sentence "At first Clyde was disappointed about not being able to study astronomy in college," one student used the correct adjective **disappointed**, two students used the correct synonym **frustrated** while two other students used the correct synonym **unhappy.** All three were accepted as appropriate. The students explained their choices by saying that if they were unable to go to college and really wanted to go, then they would be disappointed or unhappy or frustrated, as Clyde was.

The third passage entitled "Never Mind Them Watermelons," was adapted from the SRA Individualized Reading Kit. This 180-word passage consisted of five deletions with a readability of 3.5. The first and

last paragraphs were kept intact so that students could better grasp the context of the passage. The researcher did not give any background information concerning this passage. The results are recorded in Table 16.

Table 16

Exact Responses and Acceptable Synonyms for the Passage "Never Mind Them Watermelons"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	70%	80%
Ellen	70%	90%
Brenda	80%	80%
Simon	70%	80%
Grant	80%	80%

The results of Table 16 indicated that students were maintaining good scores with an average of 74% on

exact responses and an average of 82% on acceptable synonyms. All students gave appropriate answers during discussion period as to why certain selections were made. All selections made were adjectives, but all were not correct. For example, in the sentence "Another man said he'd give him a whole wagonload of watermelons if he would spend the night in a certain old house down the road," one student replaced **old** with the word **funny**. Her reasoning was that haunted houses are funny-looking. When asked to reread this sentence using the word **funny** in the blank space, she read, "Another man asked him if he would spend the night in the funny house down the road." Because she was reading quickly, she made several omissions and an insertion in one sentence, thus slightly altering the context of the sentence. She omitted the words **a** and **certain**; as well, she inserted the word **the**. However, when she read the sentence a second time, reading it slowly, she realized that the word **funny** did not fit the context of the sentence. Two other students replaced the word **old** with **worn**, one student used **shabby**, while the last student used the correct response **old**. The researcher accepted **worn** and **shabby**

as appropriate synonyms. In the sentence "Ain't gonna be nobody but you in a minute, said the frightened man," three students used the word **terrified**, while two students used the word **scared**. None of the students used **frightened**. Because the words **terrified** and **scared** were considered excellent adjectives by the researcher, they were accepted as **appropriate synonyms**. All students were given scores for these selections.

Week 5: Adverb Deletions

Adverb deletions were introduced during the fifth week of this study. As was the practice, the researcher explained the definition and gave examples on the chalkboard before independent cloze passages were given.

The first independent passage was a 197-word passage adapted from the SRA Individualized Reading Program entitled "The Lucky Man." This passage, with a readability level of 3.5, had five deletions. Information concerning the passage was not given. Table 17 indicates the students' performance.

Table 17

Exact Responses and Acceptable Synonyms for the Passage "The Lucky Man"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	80%	80%
Ellen	80%	80%
Brenda	60%	70%
Simon	70%	80%
Grant	50%	70%

In Table 17, the overall average of exact responses is 68%, while the overall average of acceptable synonyms is 74%. These results indicate that students were encountering some difficulty with this passage. One student who encountered difficulty was Grant. However, when appropriate synonyms were scored, his score increased from 50% to 70%. Brenda and Simon also received higher scores when synonyms

were accepted. Although some adverb choices were incorrect, they did fit the context of the sentence and consequently were scored correctly. For example, in the sentence "He walked sleepily to the window," two students replaced **sleepily** with the word **slowly**, while one student used the word **closely**, and one other student used the exact response **sleepily**. Although **sleepily**, **slowly**, and **closely** are not synonyms, they did fit the context of the sentence and also the context of sentences coming before and after the deleted word. To illustrate, the full passage is as follows: "Once there was a man lying in bed asleep. And he woke up. He heard something flapping. He got up. He walked sleepily to the window, and he saw it." When asked to explain why adverbs **slowly** and **closely** were used, one student said, "If I were asleep in bed and suddenly awakened by a strange noise, I would walk slowly to the window to see what the noise was. I would walk slowly because I would still be partly asleep." Another student explained, "If you heard a noise, you would walk closely to the window so you could see what the strange sound was."

For the sentence "It would really flap its arms

in the moonlight and then slip back into the shadow of the tree,". four students used the correct adverb **really**, while one student used the adverb **not**. The use of the adverb **not** changed the context of the sentence, therefore, it was scored as an incorrect response. The student who used **not** couldn't give an appropriate reason for this choice. Her only reason was that she could not find any other adverb to fit this sentence. However, in the sentences "In the morning the man got up and went downstairs. His wife was already in the kitchen," two students used the correct adverb **already**, two other students used the adverb **down**, while one student used the verb **cooking**. When asked why **down** was used, both students said the sentence read that the man went downstairs, as a result his wife was **down** in the kitchen. Because **down** is an adverb and fitted the context of the sentence, the researcher scored this word correctly. The student who used the word **cooking** said that she thought of the man's wife cooking his breakfast and people cook in the kitchen. Although this student's reasoning was acceptable and the word **cooking** fitted the context of the sentence, the word was not accepted because it was a verb.

The second independent passage was a short science passage adapted from the SRA Individualized Reading Program. This 130-word passage consisted of seven deletions with a readability of 3.3. The first and last sentences of the passage were kept intact so that the context of the passage would be more understandable. The title given was "The World's First Balloon." The results are recorded in Table 18.

Table 18

Exact Responses and Acceptable Synonyms for the Passage "The World's First Balloon"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	86%	100%
Ellen	86%	86%
Brenda	57%	72%
Simon	72%	86%
Grant	72%	72%

The results indicate that students did well on this passage with an overall average of 75% on exact responses and an overall average of 83% on acceptable synonyms. Only one student encountered difficulty with exact responses. However, with acceptable synonyms, this student's score increased from 57% to 72%. The other four students did well, with scores ranging from 72% to 100%. Three students showed improvement when appropriate synonyms were scored as correct. Two students used verbs, all others used adverbs. Most of the adverb selections were either exact selections or synonyms. For example, in the sentence "If some of that smoke is put in a big bag, the bag slowly rises," three students used the adverb **slowly**, one student used the auxiliary verb **will**, while the other student used the auxiliary verb **would**. The students who used the adverb **slowly** explained: "If you watch smoke rise in the air, the smoke will rise slowly, therefore if you put smoke in a big bag, then the bag will slowly rise." The other two students were unsure of their reasons for using **will** and **would**.

In the sentence "But they soon found out that it was not the smoke that made the balloon go up," two

students used the adverb **soon**, one student used the adverb **quickly**, while two others used the adverb **suddenly**. Since these adverbs have a similar meaning, the researcher scored all three as appropriate synonyms.

Week 6: Initial Consonants

At the beginning of this lesson, the researcher asked the students what they thought consonants were. They replied that consonants were all the letters of the alphabet excluding vowels. When asked what **initial** meant, two students replied "the first letter of a word or name." The researcher then gave example sentences on the chalkboard with deleted words. The beginning letter of the word was given and students were to complete the remainder of the word. For example, "A clam is an animal that lives in a shell." Three students used the word **lives**, while two students used the word **lies**. In the next sentence "You can dig clams on a beach by the ocean," all five students gave the correct word. In the sentence "You walk along the beach," once again all five students had this word correct. A total of ten sample sentences were given on the chalkboard. The scoring of these ten sentences

ranged from 70% to 100%. Since it was apparent that the students had a fairly good grasp of initial consonants, the independent reading passages were introduced. The first passage was adapted from the SRA Individualized Reading Program. This 82-word science passage with the title "The Female Egyptian Mouthbreeder," contained six deletions with a readability of 3.0 on the Fry Readability Scale. Table 19 indicates the scores for exact responses and acceptable synonyms.

Table 19

Exact Responses and Acceptable Synonyms for the Passage "The Egyptian Mouthbreeder"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	100%	100%
Ellen	100%	100%
Brenda	83.3%	83.3%
Simon	67%	83.3%
Grant	83.3%	83.3%

The overall average on exact responses in Table 19 is 87%, while the overall average on acceptable synonyms is 90%. These percentages indicate that students performed well on this passage. When synonyms were scored, Simon increased his score from 67% to 83.3%. An example of this can be seen in the following sentence: "When the babies are frightened they hurry back to their mother," four students used the word

frightened while Simon used the word **fearful.** The researcher felt that this synonym was excellent. When asked why this was chosen Simon explained that "A baby fish is like any other baby, if it sees something that it is scared of, it hurries back to its mother in fear of what might happen." In the section reading "This little fish lays her eggs in the sand. Then she takes them all into her mouth," the word **mouth** was used correctly by four students, while one student used the word **mother.** The student who used the word **mother** read the sentence as: "Then she takes them all to her mother."

The second passage given was a story from the grade five Open Highway Series Discovering Treasure. This 255-word passage entitled "Trapped in the Earth" consisted of ten deletions with a readability of 3.8 on the Fry Readability Scale. The results are shown in Table 20.

Table 20

Exact Responses and Acceptable Synonyms for the Passage "Trapped in the Earth"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	80%	80%
Ellen	80%	90%
Brenda	70%	90%
Simon	60%	70%
Grant	60%	60%

The average score of exact responses in Table 20 was 70% while the average score of acceptable synonyms was 78%. These scores indicate that students were maintaining a satisfactory level of performance. Some students increased their scores when synonyms were accepted, as is shown in the sentence "Pedro, suddenly I feel faint again." **Faint** was replaced by the word **feeble**. When asked why the word **feeble** was used, the

student replied, "Pedro had been hit on the head with a piece of board. He was knocked-out. When he awoke he tried to stand up and began to tremble like an old person who is feeble." The word **feeble** does fit the context of the sentence therefore the researcher scored this word as an appropriate synonym. In the sentence, "Gabriel realized that he was trapped in the theatre," three students used the exact word **trapped** while two students used the word **trembling.** When asked why the word **trapped** was used, the students explained that when the earthquake started, the theatre fell in on the people and trapped them. When the remaining students were asked why they had chosen the word **trembling** they replied that an earthquake causes the ground to tremble so therefore the people in the theatre were also trembling. Because **trembling** was not a synonym for **trapped,** and because it did not fit the context of the paragraph, an incorrect score was given.

The third passage for week six was a history passage entitled "The Life of the American Indian." This non-fiction passage contained 135-words and ten deletions. On the Fry Readability Scale, this passage was at a 4.0 grade level. Table 21 indicates the

performance of each student.

Table 21

Exact Responses and Acceptable Synonyms for the Passage "The Life of the American Indian"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	90%	90%
Ellen	60%	70%
Brenda	60%	70%
Simon	100%	100%
Grant	50%	60%

Students continued to maintain a satisfactory performance level in Table 21. The average scores were 72% on exact responses and 78% on acceptable synonyms. However, some students indicated that they encountered more difficulty with this passage than with previous passages. The researcher felt that this might be due

to the fact that this history passage was non-fiction. The scores of some students did increase when synonyms were accepted. For example, in the sentence "American Indians used to dip their blankets into these pools, wring out the oil, and use it as medicine," two students used the exact response **medicine**, while three students used the word **medication** which was accepted as an appropriate synonym. However, in the sentence "Samuel Kier found in the bottom of his cooking pot a black scum that would not burn," three students used the exact response **burn**, while two students used the word **boil**. Although the word **boil** was an incorrect response, the two students who used this word said that as soon as they saw the words **cooking pot**, they thought of something boiling in this pot. These students were using context to arrive at their answers. However, their context did not fit the rest of the paragraph. In the sentence reading "Since that time it has been used to pave thousands of miles of roads," four students used the exact response **roads**, while one student used the synonym **runway**. The student who used the word **runway** said, "I was thinking of a paved runway where airplanes take off." **Runway** was accepted as an

appropriate synonym.

Week 7: Vowels from Selected Words

During the seventh week of this study, students were introduced to vowels. They were told that passages would be given throughout this session and that each passage would have words selected with the vowels deleted. Sample sentences were given on the chalkboard. One such sentence read "No one could say how he got on the airplane." Students filled in the four spaces with the vowels a, i, a, e, to get the word **airplane.** To complete each of these deleted words, students had to use the context of the sentence or sentences coming before and/or after the deleted word, and have a reasonably good knowledge of spelling, which was unlike the previous cloze passages.

The first independent reading passage was an 83-word science passage consisting of six deletions and entitled "How Plants Make Their Food." Its readability level was 3.5 on the Fry Readability Scale. Only exact responses were scored, since students had to spell the word correctly in order to be given a score. Table 22 indicates the performance of the students on this passage.

Table 22

Exact Responses for the Passage "How Plants Make Their Food"

Students	Percentage of Exact Responses
Sharon	100%
Ellen	67%
Brenda	100%
Simon	83%
Grant	67%

The overall average of 83% on Table 22 indicates that students were performing on a high level. Some students performed at a much higher rate than others, with scores ranging from 67% to 100%. All students knew what the deleted words should be, but some inserted the incorrect letters in certain spaces. For example, in the sentence "Air enters the leaves through tiny holes," two students spelled the word **enters** correctly, while three spelled it as **inters, anters, antars.** However, all three pronounced this word as

enters. Student number 5 gave an incorrect spelling of the word **shining** in the sentence "Sunshine is also needed, because a plant can make food only when the sun is shining." He spelled this word as **shineng.** Again, when asked to read the sentence aloud, this student identified the deleted word as **shining.** Finally, in the sentence "Both eat plants," all five students pronounced this word correctly, only one student spelled it incorrectly. He reversed the letters and spelled it as **aet.**

The second independent passage was an 85-word passage containing eight deletions. This science passage was adapted from the SRA Individualized Reading Program and was entitled "Cub Scouts." Its readability was 3.7. The results are indicated in Table 23.

Table 23

Exact Responses for the Passage "Cub Scouts"

Students	Percentage of Exact Responses
Sharon	88%
Ellen	75%
Brenda	100%
Simon	75%
Grant	75%

Students' performance was high in Table 23. The average score was 83% and the range of scores was from 75% to 100%. The only two incorrect errors were found in the sentences "Scouts learn to find their way through the woods" and "Sometimes scouts camp overnight." In the first sentence, the word **woods** was replaced with the word **wilds** by two students. They said they were thinking of cub scouts lost and trying to find their way in the **wilderness.** In the second sentence, the word **overnight** was replaced with **everynight** by one student. This student was thinking

of cub scouts camping outside everynight in the summer in their tents or sleeping bags.

The third independent passage for week seven was adapted from the SRA Individualized Reading Program with the given title "The Fun of Flying." This 120-word passage had a readability of 4.2 and consisted of ten deletions. Table 24 indicates how well students performed when only exact responses were scored.

Table 24

Exact Responses for the Passage "The Fun of Flying

Students	Percentage of Exact Responses
Sharon	90%
Ellen	70%
Brenda	100%
Simon	80%
Grant	80%

The average score of 84% in Table 24 indicates improvement with vowel selections. The scores ranged from 70% to 100% on this 4.2 reading passage. The

largest number of errors was three. Two of these errors were incorrect spelling and one was an incorrect selection. Examples of these errors are shown in the following sentences. In the sentence "Then he climbs into the plane and starts the engine," two students spelled engine as **engone** and **ingone**, but pronounced the word as **engine**. One student spelled the word **fast** as **fist** in the sentence "In the air, he makes the plane go as fast as possible." However, this student did pronounce the word correctly. The one incorrect selection was in the sentence "Then he radioes to the flight tower," where **tower** was spelled as **townr** and pronounced **town**. Upon rereading this sentence, this student read "Then he radioes his flight into town." When asked why **town** was used, this student replied, "If there is some trouble with the flight, then the pilot will radio to the nearest town with his flight and land." Her reasoning was out of context. All deletions were discussed, including those that were appropriate.

Week 8: Omission of Letters from Words

During the eighth week of this study, cloze passages were prepared where letters were omitted from words. Unlike the previous week, this time the omitted

letters could be either vowels or consonants or both. As was the rule, the researcher had the students complete sample sentences before proceeding with independent reading passages. Once again only the exact spelling of a word was acceptable.

The first independent passage was a history passage adapted from the SRA Individualized Reading Program and given the title "The Chinese New Year." This 114-word passage had a readability of 3.9 and consisted of ten deletions. Table 25 indicates how well students performed.

Table 25

Exact Responses for the Passage "The Chinese New Year"

Students	Percentage of Exact Responses
Sharon	100%
Ellen	90%
Brenda	90%
Simon	80%
Grant	60%

The above scores indicate a high level of performance with an average of 84%. The range of scores was from 60% to 100%, with a total of four errors out of ten deletions. Most of the errors were spelling mistakes, while one error was an incorrect word. The appropriateness or inappropriateness of all ten deletions was discussed. For example, in the sentence "It may be called the Year of the Dog or the Year of the Rooster instead of 1960 or 1961," three students spelled the word **instead** correctly, while one student spelled it as **insaech** and another student spelled it as **insteed.** Both students, however, identified this word as **instead.**

In the sentence "Usually there is a dragon dance in the streets," four students spelled **streets** correctly while one student wrote it as **straets**, but read the word as **streets.** She said she had chosen this word because of a program on T.V. once where Chinese people were dressed up in funny costumes and were dancing in the streets in their costumes. The third incorrect spelling was from the sentence "Others make a lot of noise by shouting and laughing." Four of the students spelled **laughing** correctly while one student wrote the word as **leugheng.** When this sentence was

reread, however, the word was once again pronounced as **laughing.** Students were asked why they had chosen the word **laughing.** They explained that the Chinese celebrate their New Year by dressing up in funny costumes and having lots of fun shouting and laughing in the streets. The one error was in the sentence "There are always plenty of fireworks." Three students spelled **fireworks** correctly; one spelled it as **firewerks,** even though she pronounced the word as **fireworks,** while the last student spelled the word as **firewatks,** but pronounced it as **firewater.** During discussion period, he gave the following reason for using this word. "I heard my father say one time when I was reading about Indians that these people drink firewater and firewater is another name for whiskey. Therefore, if the Chinese are celebrating their New Year, there would be plenty of whiskey around to drink just like there is when we celebrate our New Year." This student's reasoning did not relate to the context of this particular passage.

The second passage was adapted from the Grade 5 Open Highways Reading Series Discovering Treasure. This 227-word passage entitled "The Bell" consisted of ten deletions with a readabiltity of 4.0 on the Fry

Readability Scale. The passage was a humorous tale about the people of Mols. Mols is an imaginary place where people do and say ridiculous things. Once again, the researcher kept the first and last paragraphs intact so that the context of the passage would be easily comprehended. Table 26 records the students' performance on this passage.

Table 26

Exact Responses for the Passage "The Bell"

Students	Percentage of Exact Responses
Sharon	100%
Ellen	100%
Brenda	100%
Simon	90%
Grant	80%

The above scores indicate that students did excellent work on this passage with an overall average of 94%. The range of scores was from 80% to 100%, with

only two incorrect spelling errors, and no incorrect deleted words. For the sentence, "At last the men of Mols agreed that the bell should be taken out and lowered into the sea," three students gave the correct spelling response **lowered**, while two students spelled the word as **lowired**, and **lowared**. In both cases, the word was pronounced as **lowered**. Next, a discussion took place as to why the word **lowered** fitted the context of the sentence. The students replied that the people of Mols wanted to put the bell in the bottom of the sea to protect it, so that meant the same thing as lowering the bell to the bottom of the sea. In the sentence, "One of the wisest of the people of Mols took a knife out of his pocket and cut a deep mark on the side of the boat," four students spelled both words correctly, while one student spelled **knife** incorrectly and **boat** correctly. Some of the deleted letters in the word **knife** were reversed, leaving the spelling as **kinfe**. This word was still pronounced however as **knife**. When asked why the words **knife** and **boat** fitted the context of the sentence, the following reply was given: "The phrase cut a deep mark was the clue to **knife** because a **knife** is used for cutting, and the word **boat** was used because the people of Mols travelled around in boats."

The third independent passage was a science passage adapted from the SRA Individualized Reading Program and given the title "Where Does Lightning Come From?" This 108-word passage with a readability of 4.5 had eight deletions. Table 27 indicates the students' performance.

Table 27

Exact Responses for the Passage "Where Does Lightning Come From"

Students	Percentage of Exact Responses
Sharon	100%
Ellen	100%
Brenda	85%
Simon	75%
Grant	75%

The results indicate that students performed well on this passage with an average score of 87%. The range of scores was from 75% to 100%, leaving a total

of only two errors. The appropriateness of all suggestions was discussed. The two errors were from the sentences "Wild winds blow inside these clouds," and "When lightning flashes, it usually comes from big black thunderheads." In the first sentence, one student spelled **clouds** as **cloues**, but pronounced it correctly, while in the second sentence **flashes** was spelled as **flysaes** by one student. Again, this student knew the correct pronunciation of the word and felt the word **flashes** was appropriate, explaining that: "Lightning will always flash in the sky. Lightning is like a light bulb that is almost burned out, it flashes on and off."

Week 9: Random Deletion of Words

During the ninth week of this study, the researcher concentrated on the reading comprehension levels of the students relative to the passages given to them. As a result, these students were given written context with random deletions. In this cloze procedure, the deleted words were listed at the bottom of the page and students were required to supply the appropriate words in written form.

After the meaning of random deletions was

explained and several sample passages were completed, the researcher gave the students their first independent cloze passage. This 85-word passage, with a readability of 4.0, had five deletions and was entitled "Three Thousand Different Punches." Only exact responses were scored in all passages given on random deletions. Table 28 indicates students' performance.

Table 28

Exact Responses for the Passage "Three Thousand Different Punches"

Students	Percentage of Exact Responses
Sharon	100%
Ellen	100%
Brenda	90%
Simon	90%
Grant	80%

The results indicated a high level of performance

on this passage with an overall average of 92%. The individual scores ranged from 80% to 100%, with only two errors. One error was found in the sentence "Each conductor has a punch all his own, and each punch is different." Four students gave the correct response while one student gave the word **cut** as his response. His explanation for choosing **cut** was that the tickets given out by the conductor all have different punches cut into them and the word cut seemed to fit the sentence. The second error was in the sentence "You may see a small gun, a wheel, or a boat cut into the ticket." All students gave the correct response **cut**, while one student gave the response **different** for the correct response **see**.

The second independent reading passage was adapted from the SRA Individualized Reading Program. This 78-word passage entitled "How Deers Swallow Their Food," had a readability level of 4.2, with every seventh word deleted. Table 29 indicates the students' performance.

Table 29

Exact Responses for the Passage "How Deers Swallow Their Food"

Students	Percentage of Exact Responses
Sharon	100%
Ellen	72%
Brenda	100%
Simon	100%
Grant	72%

All students performed well on this passage with an overall average of 89% and only two errors. These errors occurred in the following sentences, "There are many animals that may catch and hurt the deer, so deer run to get away from them," and "Therefore, a deer must eat and swallow its food quickly." In these sentences, two students confused the words **catch** and **swallow**. They inserted **swallow** in the first sentence, and **catch** in the second sentence. During discussion period, one student gave her reason for choosing these words. She

said that other animals try to kill the deer. If they kill the deer they will eat its meat, therefore a deer must try to catch something to eat so that it may get away from other animals. The second student said she wasn't sure why she had chosen these words but after rereading the sentences, she could see where she made her mistake. Once again, all deletions were discussed, even those that were considered appropriate. For example, in the sentence "Then food comes back into the mouth as a cud, which the deer chews thoroughly," all five students gave the exact response. During a discussion, one student gave the following reason for this response, "I read somewhere in a science book that when cows eat, food comes back into their mouth as a cud and then the cows chew their cud, so when I read the above sentence in the passage about deers, I thought that deers must do the same thing as cows." This student was relating prior knowledge to the present passage, and therefore her reasoning was appropriate.

The third passage was a 270-word passage entitled "The Magic Sandals," and had a readability level of 4.5 according to the Fry Readability Scale. It consisted

of eight word deletions. The results of students' performance are shown in Table 30.

Table 30

Exact Responses for the Passage "The Magic Sandals"

Students	Percentage of Exact Responses
Sharon	100%
Ellen	75%
Brenda	87.5%
Simon	100%
Grant	75%

The average score of 88% in Table 30 indicated that students were maintaining a high level of performance. The range of scores were from 75% to 100%. Students scoring 75% had only two errors, while those scoring 87.5% had one error. For example, in the sentence "Hualachi, the messenger of the Great Inca drooped his shoulders with sadness...," four students gave the exact response, while one student gave the response **sternness**. Her reason for choosing this word

was that she thought it meant the boy was very sad and when he drooped his shoulders he did so because he was scared that the Great Inca would be stern with him. Although this student used proper context to arrive at her reasoning, she was confusing the meanings of the words **sadness** and **sternness.** In the sentence "Hualachi's eyes shone with happiness," four students used the word **happiness,** while one student used **surprised.** When asked to reread the sentence using the past tense **surprised,** she realized that the past tense form did not fit the context of this sentence. All five students gave the correct response **music** in the sentence "The Great Inca wishes to hear some music." When asked why they had chosen this word, they explained that they had been told in the previous paragraph that the Great Inca loved music. In this explanation students were relating what they read to the context of the passage.

Week 10: Post-Test Scores

At the beginning of this ten week study, an analysis of each student's oral reading errors from selected miscue passages indicated that these students were not using context clues to obtain meaning and results from standardized tests indicated they were

reading below grade level by two to three years. The cloze procedure was therefore used to aid in the development of the student's use of context clues. The post-tests administered to each student were designed to evaluate the student's reading comprehension and to determine whether the cloze procedure had helped in the development of context clues to improve reading comprehension, word recognition and vocabulary development. Consequently, during week ten of this study, the researcher administered the following post-tests: (1) The Gates-MacGinitie Reading Test, Level D, Form 2, and (2) cloze passages in which every tenth word was deleted. These cloze tests were constructed by deleting all types of words indiscriminately. Table 31 gives the scores on both the vocabulary and comprehension subtests of The Gates-MacGinitie Reading Test that were gathered on each student prior to the ten week study.

Table 31

Scores on Vocabulary and Comprehension Subtests on The Gates-MacGinitie Reading Test prior to the Ten Week Study (March, 1984)

Students	Vocabulary	Comprehension
Sharon	3.3	3.2
Ellen	3.0	3.5
Brenda	2.0	2.4
Simon	3.2	3.0
Grant	2.9	3.0

Table 32 gives the scores on both vocabulary and comprehension at the end of the ten week study.

Table 32

Scores on Vocabulary and Comprehension Subtests on The Gates-MacGinitie Reading Test Level D, Form 2 at the end of the Ten Week Study (June, 1984)

Students	Vocabulary	Comprehension
Sharon	4.0	4.6
Ellen	3.7	4.7
Brenda	3.1	3.8
Simon	4.3	4.2
Grant	3.5	4.1

A comparison of Table 32 with Table 31 indicates that all five students increased their scores at the end of the ten week study. On the vocabulary subtests Sharon and Ellen had an increase of seven months in their scores. The vocabulary development of Sharon increased to a 4.0 grade level from a 3.3 level; whereas the vocabulary development of Ellen increased from 3.0 to 3.7. Brenda and Simon increased their scores by one year one month. The vocabulary development of Brenda increased to 3.1 from 2.0, while

Simon increased to 4.3 from 3.2. Grant gained the least. His vocabulary development in March 1984 was at a 2.9 grade level and when retested ten weeks later, it had increased by six months to a 3.5 grade level.

The biggest gains in scores at the end of the ten week study was in the comprehension subtests of The Gates-MacGinitie Reading Test. Sharon and Brenda, increased their comprehension scores by one year four months. Sharon was initially tested at a 3.2 grade level, but when retested she scored a 4.6 grade level. Brenda initially had only a 2.4 grade level, but when retested ten weeks later, her score had increased to a 3.8 grade level. Ellen and Simon increased their scores by one year two months. Ellen was initially tested at a 3.5 grade level, but retested at a 4.7 grade level. When Simon was initially tested his grade level in comprehension was 3.0 and ten weeks later his grade level rose to 4.2. Grant increased his score by one year one month in comprehension. When first tested his score was at a 3.0 grade level, however when retested, his score rose to a 4.1 grade level.

These results showed that all five students increased their scores on both the vocabulary and comprehension subtests. Some students admitted that

they found the comprehension section of The Gates-MacGinitie Reading Test a little difficult but when they encountered an unfamiliar word, they used the cloze procedure technique to help decide what the correct word should be.

To further test student's ability to comprehend details or relationships and to further test how students use context clues to obtain meaning, the researcher decided to employ a cloze procedure in which every tenth word was deleted. The researcher decided to call this procedure "The tenth word celetion cloze tests."

Three unseen independent cloze passages at similar readability levels were given. These passages were provided on large stenciled sheets and students were to complete the answers on these sheets. A total of ninety minutes was allotted for the three independent cloze passages. All passages contained 184-words with both the first and last paragraphs intact. Scoring involved exact responses and appropriate synonyms.

Cloze passage number one entitled "How to Dig Up a Bone" was a 184-word science passage developed by the researcher. The readability level was 4.0, according

to the Fry Readability Scale.

Cloze passage number two was titled "The Moonwalk Adventure." This adventure story, developed by the researcher, concerned Astronaut Edwin E. Aldrin Jr. and Astronaut Neil A. Armstrong, who in 1969 went to the moon. The Fry Readability Scale placed this 184-word passage at a 4.0 grade level.

The third cloze passage developed by the researcher was titled "The Early Days of Railroading." This 184-word history passage was placed at a 4.5 readability level on the Fry Readability Scale. Tables 33, 34 and 35 indicate how well each student performed on these tests.

Table 33

Exact Responses and Acceptable Synonyms for the Passage "How to Dig Up a Bone"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	100%	100%
Ellen	80%	90%
Brenda	90%	90%
Simon	100%	100%
Grant	100%	100%

Table 34

Exact Responses and Acceptable Synonyms for the Passage "The Moonwalk Adventure"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	100%	100%
Ellen	90%	100%
Brenda	70%	80%
Simon	90%	90%
Grant	100%	100%

Table 35

Exact Responses and Acceptable Synonyms for the Passage "The Early Days of Railroading"

Students	Percentage of Exact Responses	Percentage of Acceptable Synonyms
Sharon	100%	100%
Ellen	100%	100%
Brenda	70%	80%
Simon	80%	90%
Grant	90%	90%

The average percentage of exact responses recorded in Table 33 was 94%, Table 34 was 90% and Table 35 was 88%. These scores indicate a high level of performance by the students. The average percentage of acceptable synonyms recorded in Table 33 was 96%, Table 34 was 94% and Table 35 was 92%. Again, scores indicate a high level of performance. These results show that students had a very good understanding of the cloze procedure and were capable of applying it to their work. When appropriate synonyms were given in each passage, scores increased. In Table 33 one student benefitted from the scoring of synonyms. Her score increased from 80% to 90%. In Table 34 two students benefitted from the scoring of synonyms. Their scores increased from 90% to 100% and from 70% to 80%. As well, the scores of two students in Table 35 increased when synonyms were accepted. Their scores improved from 70% to 80% and from 80% to 90%.

Summary

As a motivational technique for the cloze procedure, oral context was used during the first week of this ten week study. Passages were either read to the students or given in written form. In each case,

regardless of the procedure used, a follow-up discussion required students to explain why certain words were or were not appropriate. From these discussions, the researcher observed the following:

(1) If the students were given a familiar passage, that is, a passage they had previously completed in class or a passage where some background information was given, their scores ranked higher than with unfamiliar passages.

(2) If the first and last paragraphs were kept intact, rather than the first and last sentences, students scored higher because more information was provided to allow them to relate deletions to the context.

(3) Students did not use synonyms in any of the cloze passages given during week one. The researcher felt that this may have been because some students were encountering difficulty using context clues to obtain meaning.

Although students' scores during week one showed satisfactory results, the readability level of the

cloze passages ranged only from 2.6 to 3.0. The students continued to read word-by-word with very little fluency and expression and some had poor enunciation and were poor spellers.

The instructional procedure for weeks two, three, four and five was varied by the use of different types of cloze passages. This variation helped to focus on different aspects of reading instructions. Cloze passages were prepared by deleting certain content words such as nouns, verbs, adjectives and adverbs. This helped to focus instruction on the syntactic constraints of the language. In scoring these content words, exact responses as well as appropriate synonyms were accepted. The appropriateness of all deletions was discussed. From the activities and the ensuing discussions the following observations appear valid:

(1) Students scored higher on shorter reading passages than on longer passages. Since these students read in a monotone word-by-word fashion, the shorter passages seemed to maintain their interest level, probably because they could be read quickly. However, the lower readability level of the

shorter passages may also have been a factor.

(2) When content words were continuously repeated, students scored higher on each succeeding passage. For example, when each content area was first introduced, students had difficulty understanding the concept. However, through a number of practice sentences students quickly understood these areas and their purposes.

(3) If cloze passages involved high-interest material, students' scores ranked higher than was the case when the passages involved low-interest material.

(4) The researcher noted that students frequently used words from their dialect or local manner of speech in their writing. This was more prevalent in the verb deletions than in any of the other content areas.

(5) By the fifth week of this study, students seemed to have a better understanding of the use of context clues to obtain meaning. As a result, more synonyms were scored, and scores were increased accordingly. This was

especially evident with adjective deletions. Students were now giving better descriptive synonyms.

The instructional procedure during weeks six, seven and eight of this study was varied by the use of different types of cloze passages to help focus on different aspects of reading instruction. Three types of cloze passages were prepared. In the first type, all of the letters in a word except the initial consonant were deleted. In the second, one underline was used for each letter omitted in the deleted word, while in the third, all the vowels from selected words were deleted. Thus, a variety of cloze passages were prepared, deleting parts of words to help focus instruction on word recognition and vocabulary development. As a result, the researcher presented these words in a meaningful context. She left blank spaces where the words should be located and the students read the sentences, or passages pausing at each blank space, and supplying the words that were semantically and syntactically correct according to the context. By comparing the graphic cues in the problem words with the words they suggested, the students

identified the correct missing words. Once again all deleted words were discussed and their appropriateness examined. Based on the student's initial performance and the discussions, the following observations appear valid:

(1) The more frequently cloze passages were given, the better students became at providing grammatically correct words for those passages. For example, one sample sentence read: "The dog is chewing the bone." All five students were using both semantic and syntactic clues.

(2) Students could handle passages at a higher readability level when passages related more to their interest level.

(3) Although most students were doing fairly well with cloze passages, the researcher continued to note that some of the incorrect responses seemed to be related to the student's dialect or manner of local speaking.

The instructional procedure for week nine consisted of employing written context with random deletions. Deleted words were listed at the bottom of

the page and students were required to supply the appropriate words in written form. By the end of this week, students were relating their reading material to the context of given passages. All students were doing well with passages at a 4.5 grade level. This indicated that the cloze procedure was effective in helping these remedial students. Throughout the study, however, some students were improving more than others, as indicated by their higher grades. Furthermore, during discussion period, some students were better able to discuss their answers by relating prior knowledge to their present reading passages.

Post-testing was conducted during week ten which indicated an increase in students' scores on reading comprehension, word recognition and vocabulary development. Students were using context clues to obtain meaning from selected passages. At the beginning of this study, students were having some difficulty with readability passages at a 2.6 grade level. Now the same students were comprehending material fairly well with passages at a 4.5 grade level.

The results of these post-tests indicated that

the cloze procedure was effective in raising students' reading comprehension, word recognition and vocabulary development as measured by standardized testing.

CHAPTER V

Summary, Conclusions, Implications and Recommendations for Further Research

Summary

This study analyzed the effectiveness of using the cloze procedure with remedial reading students as a means of improving their use of context clues in word recognition, vocabulary development and reading comprehension. The participants chosen for study were three female and two male fifth-grade students who attended a regular classroom but received daily help from a Special Education teacher for the Language Arts Program. The students ranged in age from 9 to 11 years.

The test data gathering procedures employed were The Wechsler Intelligence Scale for Children, The Lorge-Thorndike Intelligence Test, The Gates-MacGinitie Reading Test and The Canadian Test of Basic Skills. The information compiled indicated that each student was slightly below average ability in vocabulary development, word recognition and reading comprehension skills. Further testing using a miscue analysis

inventory indicated that none of the students were utilizing contextual clues to obtain meaning. Over a ten week period the investigator used various cloze procedure methods in working with each of the five students. These methods were oral context; content words such as nouns, verbs, adjectives and adverbs; vowels from selected words; selected words with only the initial consonant included; omission of letters from words; deletion of every tenth word and random deletion of words.

At the end of the study, each student's reading comprehension was evaluated and group gains determined by post-testing using The Gates-MacGinitie Reading Test, Level D, Form 2 and experimenter-written cloze tests employing cloze passages in which every tenth word was deleted. The standardized post-tests indicated an increase from one year to one year four months on comprehension skills and from six months to one year one month on word-recognition and vocabulary development skills. The results of the experimenter-written cloze tests indicated that when exact responses were given, the range of scores for the five students was from 50% to 70%, while the range of

scores when appropriate synonyms were scored was from 90% to 100%.

At the end of the study, students were scoring from 70% to 100% on cloze passages that had a readability level of 4.5 as compared to a 2.6 readability level at the beginning of the study. The results of the standardized post-tests and the experimenter-written cloze tests indicated that the cloze procedure was effective in raising each student's word recognition, vocabulary development and reading comprehension skills.

This study indicates that the cloze procedure is an effective teaching and testing tool which should be considered as part of the regular curriculum for remedial reading students.

Conclusions and Implications

This case study was concerned with the efficiency of the cloze procedure in improving the ability of remedial reading students to use context clues to recognize words and to interpret meaning from the printed page. Answers to three questions were sought:

1. To what extent is the cloze procedure effective as a technique to aid students in

word recognition and vocabulary development?

2. To what extent does the cloze procedure enhance the students' understanding of the meaning of words in the context of sentences and hence, their reading comprehension?
3. To what extent can the various deletion methods of the cloze procedure, including those following, improve student's use of cloze?
   a) oral context,
   b) content words - nouns, verbs, adjective, adverbs,
   c) vowels from selected words,
   d) selected words with only the initial consonant included,
   e) omission of letters from words,
   f) deletion of every tenth word and,
   g) random deletion of words.

Each of these questions is examined separately. Questions one and two are discussed in some detail; question three is ~~dealt with~~ somewhat briefly because it has already been dealt with extensively in Chapter 4. Additionally, some implications for the classroom,

arising from the examination of these questions, is discussed.

1. <u>To what extent is the cloze procedure effective as a technique to aid students in word recognition and vocabulary development?</u>

Word recognition and vocabulary development are basic functions in learning to read and the development of proficiency in these functions is of major concern in any reading programme. Tinker and McCullough (1968) maintained that there are several ways to work out recognition and development of words and that students should be taught several methods of achieving recognition and development.

To examine this question, three types of cloze passages were utilized to help focus instruction on word recognition and vocabulary development skills.

The first type deleted all letters in a word except the initial consonant. The second involved cloze passages using one underline for each letter omitted in the deleted word. The third cloze passage deleted all the vowels from selected words. An analysis of each student's performance indicated that the cloze procedure was effective with word-recognition

and vocabulary development skills. Sharon received the highest range of scores on all three types of cloze passages. Her scores ranged from 80% to 100%. This high performance level is an indication that through practice in using the cloze procedure, Sharon became more capable of utilizing her background experiences and the context of the deleted words given in the various cloze passages. An example of this is indicated in several sentences from a passage on initial consonants. The sentences read "A steam shovel went into a lot and began to work. It dug into the ground with its iron teeth and picked up a load of dirt." Sharon gave the correct responses for these sentences and explained that in the summertime she watched many steam shovels dig big holes in the ground and pick up a big shovel of dirt. Sharon's background experience as well as the context clues surrounding the sentence helped her score correctly. Some words Sharon recognized in the cloze passages were recognized as sight words, as is shown in the following sentence "But if you are looking for fossil fish, that is all the tackle you need." Sharon did not have to depend on the context of the passage to recognize the word **looking.**

The range of scores on the three types of cloze passages for Ellen, Brenda, and Simon was from 60% to 100%. The most difficulty encountered by these students was in the cloze passages on initial consonants. Ellen's scores were 100%, 80% and 60%; Brenda's scores were 83.3%, 70% and 60%, while Simon's scores were 67%, 60% and 100%. Each student encountered problems with at least one of the three passages. An example is indicated in the following sentence "We can fight forest fires, herd cattle, spray swamps, and lift and carry heavy cargo." All three students gave an incorrect response. For **fires**, Ellen wrote **friends**, Brenda wrote **flies** while Simon wrote **from**. These students required more practice with using context clues as was indicated in the passage on initial consonants. However, the scores of these students did improve with the cloze passages on vowel deletions and the cloze passages where one underline was given for each letter omitted.

The student encountering the greatest difficulty with all three types of cloze passages was Grant. His scores ranged from 50% to 83.3%. The passages on initial consonants presented the most difficulty.

Grant received the following scores: 83.3%, 60% and 50%. In the second passage where vowels from selected words were deleted, the following scores were received: 67%, 75% and 80%. In the third passage where one underline was used for each letter omitted in deleted words Grant received scores of 60%, 80% and 75%. Some of Grant's errors were "You walk along the beach," "It put the dirt into a truck," and "But at the foot of the hill, the brook slows down and flows into a river." The responses given were **wander** for **walk**, **tree** for **truck**, and **run** for **river**. In each sentence, difficulty was encountered in giving reasons for these responses. When extra practice and further instruction were given on word recognition and vocabulary development skills, Grant's scores increased on several cloze passages.

To test each student's level in word recognition and vocabulary development prior to the beginning of this ten week study, the researcher administered the vocabulary subtest of The Gates-MacGinitie Reading Test to each student. This was administered in March 1984. The following scores were received Sharon -- 3.3; Ellen -- 3.0; Brenda -- 2.0; Simon -- 3.2, and Grant -- 2.9.

At the end of the ten week study the benefit of

the cloze procedure to each student's progress in word recognition and vocabulary development skills was evaluated. This was done by post-testing using The Gates-MacGinitie Reading Test Level D, Form 2. This test was administered in June 1984 and the following scores were received: Sharon -- 4.0; Ellen -- 3.7; Brenda -- 3.1; Simon -- 4.3 and Grant -- 3.5. These scores indicate that each student showed improvement after being subjected to the cloze procedure for a ten week period. Sharon and Ellen improved their scores by seven months, while the scores of Brenda and Simon increased by one year one month and Grant's score increased by six months. These results indicate that at the end of this ten week study period, the cloze procedure was effective in helping students with word recognition and vocabulary development.

2. To what extent does the cloze procedure enhance the students' understanding of the meaning of words in the context of sentences and, hence, their reading comprehension?

Teaching students to use context clues is a very essential technique in developing meaning for words and comprehension. Steiner, Wiener, and Cromer (1971)

examined the difficulties some students encounter with reading. They found that these readers fail to extract contextual cues essential for identification. They seem to be identifying words as if the words were unrelated items unaffected by syntactical or contextual relationships. They become so preoccupied with details that they read a word into the sentence that makes little or no sense.

At the beginning of this ten week study, students were often struggling unsuccessfully to sound out words with meanings that were completely obvious from the surrounding context. They made little or no use of context in trying to discover the meanings of unfamiliar words. As a result, in this study the researcher varied the instructional procedure by the use of different types of cloze passages to focus on different aspects of reading instruction. Cloze passages were prepared deleting certain content words such as nouns, verbs, adjectives and adverbs. This focused instruction on the syntactic constraints of the language. In these cloze passages, a wide variety of exercises was designed to instruct students in the use of context clues as aids in working out word meanings

and reading comprehension. The researcher tried to extend and enrich the word meanings and reading comprehension of each student by giving them extensive reading using a variety of cloze passages that were both interesting and relatively easy. Students were first introduced to the "Curious George" stories. These stories were short, very simple to read and captured the students' attention. Their average readability level was 2.3. Other stories such as "The Wise Old Owl" provided some interesting discussion by all five students. Its readability level was 3.0. In these cloze passages on nouns, verbs, adjectives and adverbs, the researcher placed a great deal of emphasis on synonyms. This was done mainly to help students understand and interpret what they read. When appropriate synonyms were scored, the scores of all five students increased. For example Sharon, Ellen, Brenda and Grant received scores of 100% on some of the cloze passages given while Simon's score increased to 90%. Examples of appropriate synonyms were discussed in the following sample sentences "Some jungles are so thick with vines that wild animals cannot always get through them" and "The man lost his beautiful wife in a

tragic fire." Grant and Simon gave the exact response **wild** in the first sentence; Sharon and Ellen gave the response **fierce**, while Brenda gave the response **violent**. Since **fierce** and **violent** were similar in meaning to **wild**, these responses were scored correctly. In the second sentence Sharon, Brenda and Simon gave the exact response **beautiful**, while Ellen and Grant gave the synonym **pretty**. The word **tragic** was not used by any of the five students. Instead Brenda, Simon and Grant replaced this word with the synonym **fatal**, while Sharon and Ellen used the synonym **terrible**. Scores were given for all responses, since they were appropriate synonyms. Furthermore, when students encountered words that gave them difficulty, they were encouraged to use their background experience and the meanings of the words, phrases, sentences, and paragraphs surrounding the word to anticipate what each deleted word might be. For example, with the passage entitled "My First Airplane Ride," Brenda, Grant and Ellen all gave correct responses. They related this passage to the first time they were in an airplane. Sharon and Simon gave only one incorrect response in this passage and although they had never taken an

airplane ride, they related their responses to books they had read and T.V. shows.

An analysis of each student's performance indicated that the cloze procedure had been effective. The students with the highest range of scores on all four types of cloze passages were Sharon and Ellen. When appropriate synonyms as well as exact responses were scored Sharon and Ellen increased their scores from 70% to 100%. The students who encountered the most difficulty at the beginning of these passages, but improved towards the end, were Brenda, Simon and Grant. Brenda's score was in the range of 57% to 100%; Simon's score ranged from 62.5% to 90% while Grant's range was from 50% to 100%.

To further see how the cloze procedure enhanced each student's understanding of the meaning of words in the context of sentences and reading comprehension, the researcher provided each student with three cloze passages in which every tenth word was deleted. The readability levels of these passages were 4.0, 4.0, and 4.5. The scores of all five students were high, indicating that the cloze procedure did effectively increase each student's reading comprehension. When

exact responses were scored, Sharon's average on the three cloze passages was 100%, Ellen and Simon averaged 90%, Brenda's average was 77%, while Grant averaged 97%. Ellen's, Brenda's and Simon's scores increased when appropriate synonyms were accepted. Ellen's score increased to 97%, Brenda's score increased to 83% while Simon's score increased to 93%. Sharon's and Grant's scores remained the same, Sharon with 100% and Grant with 97%. These results indicated that all students had a very good understanding of the cloze procedure and were capable of applying it to their work.

At the beginning of this ten week study, the researcher administered the comprehension subtest of The Gates-MacGinitie Reading Test to each student. The following scores were obtained: Sharon -- 3.2; Ellen -- 3.5; Brenda -- 2.4; Simon -- 3.0 and Grant -- 3.0. This subtesting was given in March 1984. At the end of the ten week study, post-testing was done with the comprehension subtest of The Gates-MacGinitie Reading Test Level D, Form 2. This test was administered in June 1984 and the following scores were received: Sharon -- 4.6; Ellen -- 4.7; Brenda -- 3.8; Simon -- 4.2 and Grant -- 4.1. The post-testing was given to

evaluate each student's reading comprehension in terms of how the cloze procedure helped in the development of context clues. Each student showed improvement after using the cloze procedure for a ten week period. Sharon and Brenda increased their scores by one year four months; Ellen and Simon increased their scores by one year two months, while Grant increased his score by one year one month.

The results of these post-tests indicated that the cloze procedure was advantageous for the five remedial students involved in this study. It was effective in raising each student's reading comprehension, word recoghition and vocabulary development as measured by standardized testing.

(3) To what extent can the various deletion methods of the cloze procedure, including those following, improve student's use of cloze?

a) oral context,

b) content words - nouns, verbs, adjectives, adverbs,

c) vowels from selected words,

d) selected words with only the initial

consonant included,

e) omission of letters from words,

f) deletion of every tenth word and,

g) random deletion of words.

An analysis of data gathered on each student before the beginning of this ten week study indicated that students were unable to guess the meaning of all words in a sentence or passage. Various cloze procedure passages were therefore utilized by the researcher to help overcome this difficulty. Cloze passages were given at a 2.6 readability level and gradually increased to a 4.5 readability level.

By the end of the study, all five students were more capable of relating their reading material to the context of given passages. They were reading more fluently and were reading for ideas. In addition, the performance of each student in the cloze passages varied depending on the deletion method utilized. Students were given more appropriate synonyms with passages on noun deletions and adjective deletions, thus increasing their overall scores. The noun deletions given did not seem to alter the context of the cloze passages. As well, because adjectives are

description by nature, it appeared that when deletions were discussed, as to their appropriateness or inappropriateness, students were more capable of discussing their answers by relating previous knowledge to their present reading passages.

It also appeared that very little difficulty was encountered with random deletions. This was mainly because with random deletions, the deleted words were listed at the bottom of the page and students were required to supply the appropriate words in written form. On the other hand, cloze passages related to verb deletions, adverb deletions and word analysis strategies presented the greatest difficuly. Furthermore, Gates-MacGinitie post-tests and cloze passages where every tenth word was deleted, were administered to evaluate each student's reading comprehension, word recognition and vocabulary development skills. The results indicted an increase from six months to one year one month on word-recognition and vocabulary development skills and from one year one month to one year four months on comprehension skills. As well, students scored from 70% to 100% on cloze passages that had a readability

level of 4.5. These results demonstrate that the cloze procedure was an effective technique in raising students' reading comprehension, word recognition and vocabulary development.

This study suggests important implications for the classroom. Because the cloze procedure is flexible, easy to develop and score and is responsive to individual differences, it is ideal as an evaluative, diagnostic and instructional tool in the classroom and particularly with remedial reading students who usually must have individualized programs. The impact of the flexibility of the cloze procedure cannot be overstated as was emphasized by Blachowicz (1977) who also suggested methods of providing a pleasurable framework for introducing students to the standard cloze procedure.

There are a number of advantages in using the cloze procedure over conventional tests for determining instructional levels, including fairly low cost of the test, ease of administering the test and interpretation. However, possibly the most important advantage is the direct use of the instructional material by the student. In this way, skills can be

taught and measured in the language structure meaningful to the student.

Researchers have indicated that in assessing comprehension, the cloze test is important in that it is an objective testing tool that is free from any teacher bias found in conventional test questions and is less complicated. The development of the post-oral-reading test for testing comprehension is an important extension of cloze research.

It is possible that if the cloze procedure were incorporated into the school curriculum as a regular instructional tool, in the regular classroom, then the degree to which many remedial students require special help would decrease and, indeed, the number of remedial students might decrease. Certainly, the results of this study indicate significant improvement on the part of the students studied. This may indicate that if those students had been subjected to the cloze procedure on a regular basis, then their remedial reading problems may not have been as severe.

Further, if as some researchers indicate, diagnosis is most valid in a teaching rather than a testing situation, then the cloze procedure, which can

easily be adapted as a testing and teaching tool simultaneously, may prove to be less disruptive for the student and become a more accurate ongoing diagnostic procedure. The cloze procedure has the potential to allow teaching and testing to more closely co-exist as an ongoing process.

Recommendations for Further Research

Based on the conclusions of this study a number of recommendations for further research follow.

That a similar study be undertaken in other schools and/or school districts to establish whether or not the inferences drawn from this study will indeed be characteristic of remedial reading students at the grade five level.

That a similar study be conducted with a larger sample of students at the primary, elementary, junior high, or high school levels. To ascertain the effects of the cloze procedure, this procedure should not be limited to remedial reading students, but should be employed with students in full-time Special Education classrooms, average-ability students and also with those students of above-average ability.

That a similar study be conducted over a longer

time period. The ten week time period, while long enough to indicate some potential effects of using the cloze procedure, may nevertheless be too short to assess its true effectiveness. The effects of employing cloze for an entire school year may differ and may be a more valid assessment of this procedure.

That a similar study be carried out using a control group. This would make it possible to compare a group subjected to the cloze procedure with a group that has not been subjected to the cloze procedure.

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Appendices

A. Oral Context

Elephants Live in Zoos

Elephants in a big zoo must go to _____. They do many things at school. They learn their _____. They come when the _____ calls their _____. The elephants must stand still. They must _____ still when they get _____ with a big _____. They open their mouths for _____ pills. Someday, if they get _____ the elephants may have to take _____ pills.

1. school
2. names
3. keeper
4. names
5. stand
6. washed
7. brush
8. candy
9. sick
10. real

Desert Camels

The camel has a bad temper. When he gets (angry, happy, frightened), he will bite. He does not like to carry a heavy (cargo, load, bundle). A camel is hard to (drive, float, ride) because his back rolls back and forth.

He needs (water, juice, plants) just as you do, but he can (drink, swallow, sip) a lot at one time. Then he can (journey, travel, wander) a long way without drinking more water. This makes him worth a great deal to the people of the (land, country, desert). In the desert, a (rich, poor, large) man is one who owns many camels.

The Sport of Fishing.

One day three boys went fishing. Jack got three fish and Bill and Ted each _____ two fish.
1. caught

They made a _____ and cooked the fish.
2. fire

They _____ some apples too. They _____ again.
3. ate 4. fished

Bill got a _____ fish. Ted got some _____
5. big 6. little

fish. The boys put all the fish in a _____.
7. basket

They took ten fish _____.
8. home

"That certainly was good fishing," said Bill.

B. Noun Deletions

Curious George

Curious George is a funny _____. Have you
1. animal
ever seen him in a _____? He likes to swing
2. zoo
on a _____. Bananas are the _____ he
3. rope 4. food
likes best. He can peel a _____ as
5. banana
well as you can.

George likes the circus and often wears _____.
6. clothes
He can learn to do many _____. He can even
7. tricks
learn to ride a _____.
8. bicycle

The Ghost of the Dutchman

It was late on a dark and cold night. It was the time of night for kids to be in _____. But Milo
1. bed
and Rafie were not in bed. They were walking across a snow-covered lot. They walked until they reached an old broken-down _____. The building was built
2. building
out over a _____. It rested on big logs that
3. river
stuck out of the _____.
4. water

The wind was blowing off the _____.
5. water
Rafie was shaking from the cold.

"It's a good thing that ghost isn't real," said Rafie. "If he was, he would be one frozen Dutchman!"

"He is real!" said Milo. Milo put a bulb into his old box _____.
6. camera

"Sure he is," said Rafie, laughing. "But don't think I believe there's the _____ of an old Dutch
7. ghost
sailor haunting this _____. Anyway, this place
8. house
is going to be torn down next week. And when those new apartments go up, you won't hear anything more about your _____!"
9. ghost

"I'm going to get a _____ of him,"
10. picture
said Milo. "When I show that picture, people will believe me."

The Screech Owl

No other animal can do things the way a screech owl can. The owl has two very large eyes on the front of his _____. They let in light from the moon and stars. The owl can see very well at night. So, he always hunts at night.

1. face

The owl has good ears, too. You would have to look hard to find them. They are folds of _____ on the sides of the owl's head. They are fine for hearing very soft _____ at night.

2. skin

3. sounds

The owl has a very handy _____. He can turn it far to the left or right. He can see things that are behind him.

4. beak

It would be hard for many birds to eat a mouse. But eating a mouse is not hard for a screech _____.

5. owl

His beak is strong and it is hooked at the end. The sides of his beak are sharp. His toes have sharp, pointed _____.

6. claws

The owl can catch a mouse in his _____. He pulls the mouse into big pieces with his sharp _____. Then the owl swallows these big pieces.

7. claws

8. beak

C. Verb Deletions

Susan's Surprise

One day Susan had a surprise. Her father _____ (1. brought) home a big box. "We _____ (2. have) a new baby in the family," he said. "Is the baby in the box?" _____ (3. asked) Susan. She _____ (4. opened) the box. Inside _____ (5. was) a baby monkey.

Susan _____ (6. named) the monkey Billy. She _____ (7. taught) him to eat with a spoon. Billy _____ (8. ate) his dinner with Susan's family.

Willie's Exciting Day

As usual, ten-year-old Willie Larmond was the last to hear, "Sap's runnin, Sap's runnin," he _____ to his mother through the kitchen door.
1. shouted

"I know," she _____. But Willie had
2. replied
gone. "Sap's runnin, Sap's runnin." he _____
3. shouted
to his father and brothers _____ at the
4. working
shed.

"Can't you catch it, laddie?" his father teased. Then Willie realized. Of course, they already knew that the spring sap-run had _____. Why else
5. begun
would they be loading the sleigh with cauldrons and hogsheads, kettles, barrels, axes, and pails?

Willie sighed. He was always the last, always the smallest. In fact, he was even nicknamed "The Runt," and although the nickname was used fondly, it still didn't make Willie _____ any better.
6. feel

"Don't fret, runt," his father said kindly. "How would you like to miss school tomorrow to _____ us"
7. help
We're going to have a heavy run." Then, seeing Willie's infectious grin, he _____, "Just one
8. warned
day, though; remember that, Laddie."

"Don't worry, Father. After we get through with

Willie tomorrow, he'll be _____ to go back to
9. glad
school," Alex _____."
10. teased

The Eskimo Mailman

One Eskimo mailman delivers mail by dog sled. Two times a week, he and his ten Huskies _____ the fifty miles between two towns on an island near the Arctic Circle. The trip _____ one day unless a storm slows them. The trip back takes two days because the load is heavier.

1. run

2. takes

Dog sleds are _____ for seven months in the year. From June through October, the mail is _____ every day over the open sea in a skin boat. The mailman has never been kept from _____ the mail. He tells why: "There are no wolves on the island."

3. used

4. carried

5. delivering

D. Adjective Deletions

Pigeons

A pigeon is a big bird. It likes to live in a _____ house. Many people keep pigeons. They make
1. bird
a _____ home for them near _____ windows.
2. comfortable 3. sunny
During the day the pigeons fly away. But every night they come back to their _____ home. Sometimes people
4. cosy
take a pigeon far away. Then they tie a _____ note
5. little
to the pigeon's leg. The pigeon takes this _____
6. little
note back home.

The Farmer Astronomer

Clyde became interested in astronomy when he was twelve years old. His Uncle Lee was an amateur astronomer who spent his spare time observing the stars. One day, his uncle decided to buy a brand-new telescope so he and Clyde could observe the planets together.

The telescope soon arrived, and Clyde waited for a chance to use it. On the first _____ night Clyde turned the telescope toward the planet Mars. Suddenly the _____ planet came into view. It was the first time Clyde had seen Mars. Even though clouds kept him from getting a _____ view, Clyde stayed up for hours looking at the planet.

1. clear
2. reddish
3. clear

In 1922, Clyde's father moved the family to a farm near Burdett, Kansas. It was a _____ farm and it kept Clyde busier than ever doing chores. Clyde went to Burdett High School and after graduation he found that he could not go to college. At first Clyde was _____ about not being able to study astronomy in college. But he soon decided that he would read, study and observe on his own.

4. big
5. disappointed

Never Mind Them Watermelons

Once there was a man who said he didn't believe in ghosts, didn't believe in haunts, didn't believe in haunted houses.

Another man said he'd give him a whole wagonload of watermelons if he would spend the night in a certain _____ house down the road.
1. old

The man said, sure, he'd sleep there, so he picked up his matches and tobacco and set out. He went in the _____ house and lighted his pipe. He sat
2. haunted
down in a chair and started to read his paper.

Pretty soon something sat down beside him and said "Ain't nobody here but you and me?"

"Ain't gonna be nobody but you in a minute," said the _____ man. So he jumped out the
3. frightened
window and started to run. He ran _____ fast,
4. very
overtook two rabbits going the same way. Pretty soon something caught up with him and said, "Well, you makin' pretty _____ speed."
5. fast

"Oh, I can run faster than this," said the man - and did. When he passed the man who gave him the dare, he said, "never mind about them watermelons."

E. Adverb Deletions

The Lucky Man

Once there was a man lying in bed asleep. And he woke up. He heard something flapping.

He got up. He walked _____ to the window. And he saw it.
1. sleepily

It was white - flapping in the moonlight. It was under a tree. It would _____ flap its arms in the moonlight and then slip back into the shadow of the tree.
2. really

"It's a ghost," thought the man. "I'll fix him before he gets into the house."

Very _____ he took his gun down off the wall where he hung it at night. And he shot holes in the flapping thing, one after another. But it went on flapping.
3. slowly

At last the man went back to bed. If he hadn't killed it, at least he had scared it, he thought, for it stayed in the shadow of the tree and came no nearer.

In the morning the man got up and went downstairs. His wife was _____ in the kitchen.
4. already

"You fool!" she said. "Shooting your clean

nightshirt full of holes!" (She had washed it the day before and hung it in the tree to dry.)

"My nightshirt!," said the man. "Gosh I wasn't in it!"

5. luckily

The World's First Balloon

Nearly two hundred years ago, in France, two brothers stood watching smoke rise in the air. "If some of that smoke is put in a big bag, the bag _____ rises" said one "Yes," said the other, 1. slowly
"and if the bag were big enough, it might _____ lift us right up into the air, too." 2. also

The boys built a huge bag of paper and cloth. _____ it, they made a fire. _____ the 3. Around 4. Already
big bag began to fill out into a great round ball. It was the first balloon in the world.

"We were right," shouted the boys, "a bag of smoke _____ rises." But they _____ found out 5. slowly 6. soon
that it was not the smoke that made the balloon go _____. It was the hot air from the fire. 7. up

F. Initial Consonants

The Female Egyptian Mouthbreader

The female Egyptian mouthbreader is a good mother. This little fish lays her eggs in the sand. Then she takes them all into her m_____. After
1. mouth
two w_____ baby fish hatch from the eggs, but the
2. weeks
mother d_____ let the babies go as soon as they
3. doesn't
hatch. She w_____ a few days. Then she lets them
4. waits
swim away. When the babies are f_____ they
5. frightened
hurry back to their mother. She opens her mouth, and soon all the b_____ fish are safe inside.
6. baby

Trapped in the Earth

The plazas in Santiago, Chile, are always full of people. But when the weather is hot and muggy, the crowds are bigger than ever.

To get out of the heat, Gabriel and Pedro decided to go to the movies. The m_____ was about cowboys
1. movie
and Indians. The boys were having such fun, that they didn't notice when the cowboys and their horses began to w_____ strangely on the screen. Suddenly the
2. weave
whole theatre began to rock. "An earthquake!" shouted Gabriel. "Run for the front doors!" But it was too late. The w_____ of the theatre began to fall in on
3. walls
top of them.

It was dark when Gabriel awoke. His head hurt, and he was lying on his back in a dark p_____.
4. place
Only then Gabriel realized that he was t_____ in
5. trapped
the theatre. Gabriel called out to Pedro. There was no answer. Gabriel called many times. Finally he hear a v_____ call to him. It was Pedro. "Gabriel, we
6. voice
are trapped near the doors of the theatre," said Pedro. "Pedro, suddenly I feel f_____ again," said
7. faint
Gabriel. "I must lie down and sleep a little."

"No, we must stay awake in case we hear someone

coming to help us. Let's play a g_____," said
8. game
Pedro. The two boys played a game guessing the number
of m_____ in an old bottle Pedro found. They
9. marbles
played for many hours. Then fell asleep.

In the morning they heard n_____. It was
10. noises
workmen digging into the rubble to rescue the boys.
Finally the boys were brought to safety.

The Life of the American Indian

Sometimes oil pushes up to the earth's surface and forms a black scum on the tops of pools. American Indians used to dip their b_____ into these pools, wring out the oil and use it as m_____. They taught the white men to treat frostbite and blisters w_____ it.

1. blankets
2. medicine
3. with

Someone found that the oil would burn in l_____. Samuel Kier put some in a big pot and b_____ it. He called the new p_____ carbon oil. Today, we call it kerosene. Soon it would l_____ lamps all over the United States.

4. lamps
5. boiled
6. product
7. light

Samuel Kier found in the b_____ of his cooking pot a black scum that would not b_____. He knew of no use for the scum. Since that time it has been used to pave thousands of miles of r_____. It is now called asphalt.

8. bottom
9. burn
10. roads

G. Vowels from Selected Words

How Plants Make their Food

A plant makes its own food in its leaves. Water comes to the leaves through the roots. Air ___nt__rs
1. enters
the leaves through tiny holes. The green coloring in the l__v_s uses the water and air to make food for the
2. leaves
pl_nt. Sunshine is also needed, because a plant can
3. plant
make food only when the sun is sh_n_ng.
4. shining

Animals and people could not live without gr___n
5. green
plants. Both ___t plants. People and some animals also
6. eat
eat meat that comes from animals that eat plants.

Cub Scouts

When you are eight years old, you may join the Cub Scouts or Brownies. Scouts do many things that are f_n. They learn to tie many k_nds of knots. They look
1. fun 2. kinds
for d_ff__r_nt kinds of stones, leaves, and flowers.
3. different
When they go on h_k__s, they learn about trees and
4. hikes
animals. Scouts learn to find their way through the w__ds. After a long hike, they have a p__cn_c. They
5. woods 6. picnic
build a fire and c___k. Sometimes scouts camp
7. cook
_v_rn_ght. They sleep in tents or in sleeping bags.
8. overnight

The Fun of Flying

When a new kind of plane has been made, a test pilot is the first to fly it. The test pilot is very c_r_f_l. He looks the plane _v_r. Then he climbs into
1. careful 2. over
the plane and starts the __ng_n__. He makes sure the
3. engine
engine works w_ll.
4. well
Then he radioes to the flight t_w__r. He takes
5. tower
off when they tell him it is s__f_. In the air, he
6. safe
makes the plane go as f__st as possible. He makes it
7. fast
turn, dive, and l__p. Then he brings it back to the
8. loop
gr__nd and lands safely. This is not the end of the
9. ground
t_st. He takes it up again and again. He flies the
10. test
airplane many times to make sure it is safe.

H. Omission of Letters from Words

The Chinese New Year

Many Chinese people have a fine time celebrating The Chinese New Year. It usually c__m_s in February.
1. comes
Each year gets a n_m__. It may be called the Year of
2. name
the Dog or the Year of the Rooster i__s__d of 1960 or
3. instead
1961.

Usually there is a dragon dance in the s_r_et__.
4. streets
The dragon is a snorting monster a_o__t twenty feet
5. about
long. It is made of paper and c_o_h. Men hide under
6. cloth
the dragon and make him d__ce about. Others make a lot
7. dance
of noise by shouting and l__gh__g. There are always
8. laughing
p_e_t_ of fireworks. After the dragon dance, Chinese
9. plenty
acrobats m__y do tricks. Then the Chinese children
10. may
sing, and everyone dances in the streets.

The Bell

Once there was a rumor that a fierce enemy was going to march on the town of Mols. So the people of Mols made haste to hide everything they valued.

Their greatest t_e_s_r_ was a big church bell. Of
1. treasure
course, the people of Mols wanted to hide it in the s_f_s_ place. It was a long and difficult job to take
2. safest
the bell down from the church tower. After that, it was another job to find the best h__i_g pla__ for the bell.
3. hiding

At last the men of Mols agreed that the bell should be taken out and l_w_r__d into the sea. So the
4. lowered
people of Mols carried the bell to a boat and r_w_d out
5. rowed
a long way from shore. But when the bell had gone down with a big splash, everyone began to w_r_y.
6. worry

"The bell is well hidden from the e_e_y," said
7. enemy
one man.

"But how will we ever find it again when the enemy is g_n_?"
8. gone

One of the wisest of the people of Mols took a k_i_e out of his pocket and cut a deep mark on the side
9. knife
of the b__t.
10. boat

"Now we have marked the place where we threw the

bell into the water," he said. "So there will never be any question about where it is."

Then all the people rowed back to the shore to face the enemy.

Where Does Lightning Come From

Have you ever wondered where lightning comes from? When lightning fl_s_es, it usually comes from
1. flashes
big black thu_de_h_ads. Wild winds blow inside these
2. thunderheads
c_ou_s. Rain, hail, snow, and sleet are thrown up and
3. clouds
down _n_id_ them as though they were shaken in a big
4. inside
bag. Electricity is b_il__ up as bits of water break
5. built
apart.

Lightning is this electricity ju_p_ng through the
6. jumping
air. It may jump from one cloud to another cloud, or it may jump down to the e_rt_. Lightning changes the
7. earth
nitrogen in the air so that the rain can carry it down to the g_ou_d. In this way lightning helps to make the
8. ground
soil rich.

I. Random Deletion of Words

Three Thousand Different Punches

The next time you take a train, look at your ticket after the conductor has punched it. Look at the _____ he punched in your ticket. It may look like a small rabbit or a dog; or you may _____ a small gun, a wheel, or a boat _____ into the ticket.

1. hole
2. see
3. cut

Each conductor has a punch all his own, and each punch is _____. By looking at your ticket, railroad men can tell _____ your conductor was. There are more than 3,000 different punches.

4. different
5. who

Deleted Words

- different
- cut
- hole
- who
- see

How Deers Swallow Their Food

There are many animals that may _____ and hurt the deer, so deer run to get away from them. Therefore, a deer must eat and _____ its food quickly. Then food _____ in the stomach until the _____ can rest. The food comes back into the _____ as a cud, which the deer _____ thoroughly.

1. catch
2. swallow
3. stays
4. deer
5. mouth
6. chews

Some other animals eat like deer. The _____ doesn't have to run from other animals, but it also chews a cud.

7. cow

Deleted Words

- chews
- stays
- mouth
- swallow
- cow
- deer
- catch

The Magic Sandals

Hualachi, the messenger of the Great Inca drooped his shoulders with _____ as he stood in the palace courtyard. "Hualachi, why do you bother to wait?" one of the other messengers called to him. "Surely you do not expect the Great Inca to entrust you with another _____, after being so late with previous messages.

1. sadness

2. message

Before he could answer, a servant came to the _____. "Hualachi, the Great Inca wishes to see you." He followed the servant to the throne room of the Great Inca.

3. gateway

"I have decided to give you another chance," said the Great Inca. He reached into his straw basket and took out a _____, a bunch of colored strings with knots that formed a message. "Deliver this to the chief of my army outside the city," he ordered. "You must be at the camp before the sun is high."

4. quipu

Hualachi's eyes shone with _____. I will do as you bid. When the other messengers saw the quipu, they were very much surprised. "Perhaps it goes to the Great Inca's flutist down the road," they said.

5. happiness

The Great Inca wishes to hear some _____6. music_____.

"No," Hualachi smiled. "It is an important message. I must take it to the chief of the army outside the city. I must hurry."

Hualachi _____7. prayed_____ to the Sun God to help him deliver this message on time. The Sun God gave Hualachi a pair of magic _____8. sandals_____ to wear whenever he carried messages from the Great Inca. These sandals allowed Hualachi to be on time for the Great Inca's messages and from that day on, Hualachi carried messages faithfully and well.

Deleted Words

- gateway
- quipu
- music
- sadness
- sandals
- happiness
- message
- prayed

J. Tenth-Word Deletion Cloze Tests

How to Dig Up a Bone

Scientists who search for fossil skeletons are called paleontologists. They have to know how to get the fossils out of the ground, how to get them packed for their journey to a museum, and how to preserve and show them in museums.

Even before he starts out on an expedition, the _____ studies maps to find where fossils are likely to _____. Then when the expedition has made camp and unpacked, _____ fossil hunter starts his search for scattered bones. The _____ uses picks, shovels, and wire brushes with great care _____ clear the earth from around the fossil. After uncovering _____ fossil, the paleontologist numbers each bone. He draws a _____ and takes photographs of the fossil in the ground. _____ is done so that the bones of the fossil _____ be fitted together in the museum exactly as they _____ when they were uncovered.

1. paleontologist
2. be
3. the
4. paleontologist
5. to
6. a
7. chart
8. This
9. can
10. were

The fossil is painted with shellac to repair any cracks and is covered with wet burlap and plaster to protect it. Finally the fossil is lifted out of the ground with metal rods or strips of wood.

The Moonwalk Adventure

In the year 1969, two men came to the moon. They came in a Lunar Module from the planet Earth. The men travelled about 240,000 miles through dark outer space beyond the earth to get there.

The first men who walked on the moon looked _____ on a strange world. There were holes called craters. _____ was no water, no air, no wind and no _____. There was very little color. There were no living _____ on the moon. One after the other, the first _____ men to walk on the moon left their ship. _____ had to take air with them. They did not _____ just what they would step into on the moon. _____ could see rock dust. But they did not know _____ deep it was. Astronaut Aldrin and Astronaut Armstrong were _____ two men.

1. out
2. There
3. sound
4. things
5. two
6. They
7. know
8. They
9. how
10. these

They found it was easy to walk and work on the moon. They learned many things, and they left instruments that would keep sending more information back to Earth, after they had left. They returned safely to Earth in the Lunar Module on July 24, 1969.

The Early Days of Railroading

The early days of railroading were dangerous days in train travel. Little was known about safety. Collisions were common because there was no signal lights. If a break occurred in the rails, the train often jumped the track.

There were so many accidents in the early days _____ the railroads that people were often afraid to
1. of
take _____ train ride. When you see a train about
2. a
to _____ a bridge, you hear its whistle and see the
3. cross
_____ of warning lights. Before these signals
4. flash
were adopted, hundreds _____ people lo[illegible] their lives
5. of
in bridge accidents.

The worst _____ in Canada occurred in
6. disaster
1864 at a lift bridge _____ the Richelieu River,
7. over
twenty-one miles northwest of Montreal. _____ The
8.
bridge was built in two halves so that each _____
9. half
could lift upward from the centre of the bridge _____
10. to
let the river barges pass through.

On June 29, 1864, just as the bridge started to swing upward, a train carrying 550 immigrants came roaring along the track that crossed the bridge. There was no warning signal, thirteen cars plunged into the river killing 86 people.