THE COLOR-CODED CLOZE PROCEDURE: A METHOD TO ASSIST ADULT ESL STUDENTS IN SEARCHING FOR CLUES TO FILL IN CLOZE BLANKS

by

HOWAT ALAN LABRUM

B.A., The University of British Columbia, 1972

Dip, Ad. Ed., The University of British Columbia, 1973

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Department of LANGUAGE EDUCATION

The University of British Columbia
Vancouver, Canada

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ABSTRACT

Research by Shanahan and Kamil (1982, 1983, 1984) suggested that students did not use inter-sentential information to improve their cloze test scores. Chihara and Oller (1977) had discovered in their research with more proficient ESL students the contrary. Building on the idea that the issue of too-local reading depended on both the proficiency and motivation of the students along with the availability of beyond-sentence clues, the present research project was designed using color-coded blanks and parts of speech to highlight inter-sentential clues, especially re-iterative-word clues.

The purpose of the color-coding was to see if, by differentiating blanks and words, students could focus more sharply on the necessary information, primarily re-iterative words that occurred beyond the sentence of each cloze blank, and use these words to fill the cloze blanks. The students in the treatment group were given a key to the relationship between the color and the parts of speech but were not explicitly told to look for re-iterative-word clues. It was expected, however, that each colored blank would stimulate the students to look through the passage to find a word of the same color to fill the said blank. It was also the goal to maximize the number of inter-sentential re-iterative clues and see how cloze scores would be affected when color-

coding was used as opposed to no color-coding (the major control).

If the inter-sentential clues were present, then color-coding should have resulted in the treatment group having better scores. Randomly-colored words were used as another control to determine whether any positive effect had come from the coding or just from color as a motivational factor. Lastly, the pre- and post-tests were non-colored in order to see if the color-coding treatment had just a temporary means of help which led to no lasting gains once removed..

A pilot project was done with a class of twenty adult upper-intermediate ESL students using four forms of a standard cloze test. Based on the results the colored-blank form was dropped so the three classes in the main project could each have one form. To suit the needs of the more advanced university students, new stories were chosen and prepared using a rationalized cloze to maximize the number of re-iterative-word clues. In the main research project most of the random-color group (the least proficient group) dropped out after the pre-test. The non-colored rational cloze group received higher scores than the color-coded treatment group on all of the tests. When the mean scores were graphed both these groups made steady progress from practice test to practice test, the treatment group appearing to almost catch up. Improvement was made from pre- to post-test by both groups but less by the treatment

group, especially when only inter-sentential blanks were counted. Generally speaking, t-tests and a very sensitive statistical program ("One Between and One Repeated Measures Factor ANOVA") confirmed this improvement but showed that the color-coded cloze treatment group and the non-colored cloze control group in most cases did not differ significantly.

The graphical analyses of the results were more optimistic in favor of the color-coded treatment than the statistical analyses were but the small sample size (N = 13) made the statistical findings unclear at times. Improvement in some cases may have been because of the declining readability levels of subsequent passages.

The number of blanks filled, the number filled correctly, and the relationship of these two were analyzed to determine the confidence and productive confidence levels of each group. Results showed the color-coded treatment group were less confident in filling blanks and made limited gains in productive confidence over the control group.

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CHAPTER ONE

AN OVERVIEW OF THE RESEARCH PROJECT

THE GOAL OF THE PRESENT RESEARCH USING THE COLOR-CODED CLOZE PROCEDURE

One goal of teaching reading comprehension to adult learners of English as a Second Language (ESL) is to help them process a passage in as large chunks as possible. Richards maintained this view (1980) and pointed out that "learners need to develop strategies for interacting with a native speaker so that they are able to extract total meaning from discourse rather than being limited to the propositional content of single sentences" (p. 64). Halliday and Hasan (1976), Long (1981), and Mohan (1986), supported the same position that communication goes beyond the sentence level and involves interaction with a cohesive text.

To students the proposed advantage of discourse processing (as opposed to processing each sentence in isolation) in understanding of a passage is two-fold. First, having a broad purview could possibly allow them to take advantage of the built-in redundancy in the text to fill in gaps in information caused by unknown words, especially when a dictionary is not at hand, or if handy, would take the student away from the text for a long period of time. Ashby-Davis (1984) pointed out that the normal reader:

> must check overall understanding of a text or at least inter- and intra-sentence meanings to make educated guesses concerning the meanings of unknown words. (p.87)

Second, a wide purview could lead adult students to a clearer understanding of the needed words. Thus a proficient adult ESL reader can be defined as one who is able to find the most suitable words to fit the meaning of the unknown words in a written passage.

It is the goal of this research paper to suggest and test a method of helping adult ESL learners to become more proficient readers. The method, to be explained further in the review of the literature in Chapter Two and in the research design in Chapter Three, is a modified version of the cloze procedure. Henceforward it is referred to as the "color-coded cloze" (CCC). Also to be explained is a rationalization of the CCC in which as many deletions as possible are made to words which appear more than once in the text.

The CCC follows the standard cloze procedure in that:

a) every "nth" word, commonly the fifth, is deleted in a passage and replaced with a standard length blank;
b) the first and last sentence of a selection are left intact to give the students an idea as to the general direction of the meaning of the text; and
c) the passage is about 300 words in length allowing for 50 blanks.

The CCC is different from the standard cloze procedure in that every word and blank in the CCC passage was given a particular color to designate its part of speech. Also the CCC procedure in this research counted proper nouns in the deletion process. This is because some of the proper nouns, such as people's names, were used more than once in the passage and thus were open to the possibility of being found, especially when color-coding was applied to the passage.

The purpose of the color-coding was to draw the students' attention beyond the sentence of the cloze blank to look for clues which would help the students to determine the suitable word to fill in the cloze blank. This purpose was in response to researchers such as Cohen (1980), who pointed out that, indeed, there is a tendency for non-native speakers to look locally (within the sentence of the blank) for such clues. The purpose of using parts of speech to be color-coded was to take advantage of the information inherent in those parts of speech, including the grammatical relationships. Cohen stated that "cloze can also be used to check for awareness of grammatical relationships" (p. 96). He illustrated grammatical relationships as "grammatical agreement with the elements in the passage (tense, gender, number, person, or whatever)" (p. 96) as shown by inflections on the parts of speech, resulting in cohesion in the discourse. In making the above statement and

clarification, Cohen gave his support to the importance of grammatical information for doing the cloze tests.

Notwithstanding the advantages of the parts of speech and their grammatical relationships for doing cloze tests, it was not the purpose of this research project to teach grammar as an end in itself. Nor was it the purpose of the color-coded cloze to make the students dependent on the color-coding. Instead, it was the purpose to remove the color at some future point and to let the students complete the standard cloze exercises, while still making use of their awareness of the parts of speech clues beyond the sentence to help them fill in the blanks.

Given a) examples in the research literature on the cloze procedure of ESL students looking inter-sententially for clues to fill cloze blanks and b) observations of how business people and students use colors to highlight key ideas, it was thought that the CCC method of teaching students to look for clues beyond the local (intra-sentential) level to find information at the inter-sentential level seemed promising. However, the CCC method needed to be tested. As will be seen in Chapter Two, there were a number of hypotheses that should be tested, but at this point the prime null hypothesis to be tested was stated as follows:

Students trained with the color-coded cloze will show no significant difference in scores on a standard cloze post-test after treatment when compared to students trained on standard cloze procedures alone.

In Chapter Four if higher mean scores on the post-test are reported for the treatment group the inference will be made that CCC students were able to make more use of grammatical (syntactic) and lexical (semantic) clues than the students who received lower mean scores. On the other hand, it can be argued that the clues might not have come from beyond the sentence but from within the sentence of the blank, albeit with the help of the color-coding. Though this problem and the resulting hypotheses are better left to Chapter Two after a review of the literature on cloze procedure has been done.

Before proceeding, however, it should be noted here that, because of the necessary limited scope of this research project, there is an explicit focus on the following question. Having trained using the CCC, do students become more aware of inter-sentential same-word re-iterative word fillers that match the deleted words, than students who have trained with non-color-coded parts of speech, color-coded blanks only, or randomly-colored blanks and words? Clearly, re-iterative words of the kind just mentioned above are the easiest type of cohesive words to quantify for purposes of identification in preparation of

the cloze passages. This and other types of cohesive words are given and illustrated in Table 3 at the end of Chapter Two. Their interaction in and effect on the CCC research project can be analyzed and possibly determined by an analysis of the answers given by students on the pre-tests, practice tests, and post-tests.

SIGNIFICANCE OF STUDYING COLOR-CODED CLOZE PROCEDURE

As will become evident in the review of a portion of the abundant literature about the cloze procedure, the cloze procedure has been seen to have a place in the ESL curriculum, as well as in other language curricula. For example, Schoenfeld (1980) and Valmont (1983) suggested cloze procedure could make use of students' knowledge of syntax, phonics, and word meanings to improve the students' prediction and confirmation strategies.

Other uses of cloze procedure include:

a) teaching (Soudek & Soudek, 1983 - 1984),

b) testing (Foley, 1983),

c) readability (Rye, 1982),

...but the cloze procedure has deficiencies, attempted solutions to which have generated many of the studies to replace it with modified versions. Shanahan and Kamil through a series of experiments (to be outlined in Chapter

Two) have even tried to disparage the cloze procedure as a teaching device. This present study intends to build on the strengths of the cloze procedure by trying to overcome one of its possible weaknesses - its questioned ability to help students look beyond the sentence of the blank to find clues to a filler for the blank (Shanahan & Kamil, 1982, 1983, and 1984; Leys, 1983).

The use of color-coding as a solution to this supposed inability of students to look beyond the sentence needed to be tested, not just as an intellectual exercise, but to determine whether there was sufficient benefit to justify the extra time and expense it takes to prepare color-coded passages. Certainly it can be said that color in our society is playing a greater and greater role both in attracting and categorizing, and the means to producing color-coded products are becoming more efficient and cheaper all the time. Thus as the benefit-to-cost ratio continues to increase, the use of color-coded cloze procedure becomes more feasible. This is all the more reason why the color-coded cloze can and should be tested in a controlled way.

Because color-coding has become so prevalent in our everyday lives, even in a limited way in education, it seems ever more and more plausible to use color-coded parts of speech in the teaching of ESL. It should be noted that Gattegno was using color-coding to teach phonics and to a lesser degree, grammar in 1957, and in lesser ways language textbook writers predate even this work (Dale, 1926, Hay &

Wingo, 1954). The problem with color-coding has been and may continue to be with the necessary standardization of the color-code, which in itself is difficult to attain, and the constraints this would put on teachers and textbooks if they did not want to confuse the students.

Scope of the Study

The color-coded cloze experiment described in this paper was divided into two sections, each carried out in a different location in Greater Vancouver, a large Canadian urban setting (population 1.5 million). The first was a pilot project in which 18 young adult ESL students, largely from the Pacific Rim and studying at a major private college in Burnaby, B.C., took part. They were defined according to their college's categorization system as at the upper-intermediate level. The college students were in a program in which they studied five hours a day, five days a week in 14-week terms. The second was the main project in which 60 nineteen- to twenty-two-year old university level ESL learners from Japan, studying in three classes in the Ritsumeikan English program at the University of British Columbia in Vancouver, participated. The sixty students (chosen from a total of one hundred students) were anthropology and political science majors mostly in their second year (some in their third or fourth year) at Ritsumeikan University in Japan, visiting Canada for a nine-

month English course. In Japan they had been studying Social Science and International Relations, Science and Engineering, Law, Literature, Economics and Business administration, so the ESL course content revolved around such topics. According to their TOEFL scores they were not quite up to the required standard for university entrance. More specifics on their English proficiency levels will be given in Table 4 in Chapter Three.

The language skill area being studied in the present research was reading and learning to use context clues, particularly parts of speech with a special emphasis on re-iterative words to help find clues that would enable the students to restore deleted words from passages of between approximately 295 and 330 words each. These passages were taken from two books. The book, CANread, about Canadian personalities, written for ESL students and edited by Patricia Raymond (1987), was used for the college class. Canadian Society, A Macro Analysis, a college text by Harry H. Hiller (1991) was used for the Ritsumeikan students. Seven passages were selected (one each from separate stories) for the college students. Six passages were chosen for the Ritsumeikan students.

With regards to the reading level of the pilot project stories, Little (1988) in his review of Raymond's CANread stories and two ESL schools known to this researcher all assessed her stories at the intermediate level for ESL students. According to a Flesch readability (1948) rating

of the parts of the stories used in the pilot study, most of the stories were mostly in the grade seven to eight range, although one was at the sixth grade level. A Fry readability (1977) rating gave somewhat the same results. (For details please refer to Table 7 in Chapter Three on page 102.) Ad hoc trials of two of the stories with ESL students had suggested that the cloze forms of the CANRead stories would have to be given to upper-intermediate students or even higher if strategically possible.

The passages for the Ritsumeikan students ranged from a readability level 12 to 15, with most being at level 15, the most difficult. The assessment was done using a readability sub-program in a shareware computer program called Word Count v1.2 by Chris B. Sakkas. An analysis of the passages will be given in Table 4 in Chapter Three.

The CCC study revolved around the questions of how to get students to look beyond the immediate sentence of the blank to find the suitable (preferably the deleted) word and to show whether or not the students were, in fact, looking beyond the sentence. The methodology was to divide the students into groups and give each group the same standard cloze passage with the same deletions, but the treatment groups were given passages which had various amounts or kinds of color clues as is explained forthwith. The passages of the main treatment group had all the words and blanks color-coded according to parts of speech. The passages of the secondary control group had just the blanks

color-coded. (In order to allow for more students to be involved in the more important treatment cells, this blank-only colored treatment was not used in the main project.) The passages of the tertiary control group had all the words and blanks colored randomly. The passages of the primary (most important) control group had no color at all.

In Chapter Two, a selective review of the literature will focus primarily on research which has a bearing on finding an answer to the questions of how to help students look for inter-sentential clues and to show whether or not the students are doing so. The review will also show the basis of the research design. Chapter Three will present the resulting design of this two month study. (The study was carried out over two periods of about a month each, one period for the pilot and one for the main research project.) The results will be reported and commented upon in Chapter Four. In Chapter Five conclusions will be made about the effectiveness of the cloze procedure and what influence, if any, color-coded parts of speech had on it, particularly with adult ESL students. In addition, recommendations will be given to improve both the color-coded cloze procedure and the method of analyzing the results.

DEFINITION OF TERMS

cloze (color-coded) - the same as the standard cloze with the exception that in the color-coded cloze all the parts of speech are color-coded. Also, for the purposes of the present research paper, proper nouns are counted in the deletion process.

cloze (fixed-ratio) - a passage in which words are deleted in a fixed manner, e.g. every 5th word is deleted. It is also called the "random cloze".

cloze (modified) - a cloze passage which varies in one or more aspects from the traditional cloze passage.

cloze (random) - a passage in which words are deleted according to a set pattern, e.g. every fifth word. It is random insofar as the deletor has no control over the specific words which are deleted in a fixed manner. (Another name for this is the "fixed-ratio cloze".

cloze (rational) - a passage in which words are selectively deleted, e.g. all nouns and verbs only.; words that are found elsewhere in the text at least once (these <u>re-iterative words</u> were targeted for deletion in the main project of the present research)

cloze (standard) - a passage in which every nth word is deleted, with the exceptions that proper nouns are skipped over (not deleted or counted) and all words in the first and last sentences are left intact. (see traditional cloze)

cloze (traditional) - the same as the standard cloze

clozentropy - the process of collecting native speakers' responses to cloze blanks in order to determine possible acceptable responses for scoring non-native speakers' answers.

cohesive - the state of words having a relationship with other words.

color-coded parts of speech - see Parts of Speech: (color-coded)

confidence - the amount of faith the students have in themselves as manifested by the number of cloze blanks filled.

confidence (productive) - the number of correct answers as a proportion of the number of cloze blanks filled.

conjunctive - the state of having a relationship in which words are joined with conjunctions such as "and", "but", etc.

constraints (discourse) - the limitations put on the meaning of the passage by each of the words within it. For example, if the passage is describing "dogs", the pronoun reference cannot be "it". (see textual constraints)

constraints (textual) - the same as discourse constraints

context - the sum of the inter-relationships involved in a reading passage.

cues (grapho-phonemic) - clues from the written form of the sound of word.

cues (re-iterative) - clues that are the same word as or which contain the root of the deleted word.

cues (semantic) - clues giving lexical meaning

cues (syntactic) - clues giving syntactical (functional) meaning

deletion (fixed-ratio) - a pattern of deletion in the cloze procedure where every nth word is removed.

deletion (rational) - a selective deletion of words based on a particular teaching need, rather than a random (every nth word) deletion.

discourse - the chunk of passage larger than a sentence, i.e. the whole passage and all the inter-relationships.

Erra - an abbreviation for a combination of intra- and inter-sentential blanks, the blanks left when re-iterative words are deleted. (see Intra- and Inter-)

filler - in a cloze passage a word which is required to fill in a blank which has been left when a word has been deleted; ideally a filler would be re-iterative, i.e. the same word as has been deleted; the filler may or may not be found somewhere in the text.

gap filling exercise - any exercise which requires missing information to be found and inserted.

guessing strategy - a systematic way to determine the necessary solution to a problem, such as filling in cloze blanks by carefully and logically considering the information available to the reader and deciding upon the most suitable word to use as a filler.

Inter- - a short form for inter-sentential blanks, the space left when words are deleted from a cloze passage. (see Erra and Intra-)

Intra- - a short form for intra-sentential blanks, the space left when words are deleted from a cloze passage (see Erra and Inter).

intermediate level - the level of ESL proficiency in which the students are familiar with all the English tenses in the active voice, and are learning the passive voice, conditionals, modal auxiliaries and adjective clauses.

inter-sentential clues: words that are located beyond the sentence of the cloze blank.

intra-sentential clues: words that are located within the sentence of the cloze blank

parts of speech (color-coded) - the parts of speech are condensed to five categories, each designated with its own color a) <u>blue: nouns</u> and (subject and object) <u>pronouns</u> b) <u>red: verbs</u> c) <u>green: adjectives</u> and <u>articles</u> d) <u>purple: adverbs</u> e) <u>black: remaining groups</u> including the following conjunctions, prepositions, interjections, relative pronouns, "not"

parts of speech (traditional) - a) nouns: people, places, ideas, things, e.g. "student", "Vancouver", "philosophy". test b) pronouns: representatives of nouns, e.g. "I", "me"; relative pronouns--those pronouns which join ideas, e.g." who"," which" c) verbs: actions, e.g. "write", "think d) adjectives: descriptors of nouns, e.g. "famous" e) adverbs: descriptors of verbs, e.g. "quickly", "often" f) conjunctions: joining words, e.g. "and", "thus" g) prepositions: words which relate location and time, e.g. "in", "on" h) interjections: words that express feelings, e.g. "oh" i) articles: e.g. "a", "the"

referential - the state of a word having a relationship with another.

re-iterative - the state of being repeated; re-iterative words are words that are found more than once in a passage.

scoring method (acceptable) - a method of scoring cloze passages using any word which fits the sense of the passage regardless of whether it is a synonym or even grammatically correct.

scoring method (sensible) - a method of scoring cloze passages using synonyms as alternatives of the exact-word.

semantic - the state of expressing a meaning rather than a function.

syntactic - the state of the interaction of the parts of speech.

syntax - the interaction of the parts of speech.

test (discrete) - a test which measures the students' understanding at the sentence level, rather than relying on continuous textual understanding.

test (global) - a test which measures the students' understanding of the whole passage. (see integrative test)

test (integrative) - the same as the global test.

vocabulary - all the words in a passage, be they having lexical or functional meaning.

words (function) - the words which have no specific meaning in themselves and serve to enhance lexical words by showing relationships, e.g. "and", "but", "because", "if", "in", "the", etc.

words (lexical) - the words which carry meaning in themselves and give understanding when they stand alone, e.g. "house", "man", "speak", "big", "quickly"

CHAPTER TWO

REVIEW OF THE LITERATURE

INTRODUCTION TO THE REVIEW OF THE LITERATURE

The review of the literature in this chapter will be presented with the current research design in mind. The design evolved from having read literature on and from having had practical experience in a) the cloze procedure and b) the use of color in education. Those points relevant to the design will be discussed in terms of what previous researchers have said about them from their experiments. The purpose of this discussion is to show the genesis of and need for the present research question and to show the reasoning behind and the organization of the research design in this paper. Thus it can be said that each topic examined in this chapter has its source in the literature and is an integral part in the development of the research design. It should be noted that certain topics are either part of the pilot project, the main project, future research based on the present research, or a combination of these.

In the next part of this chapter, to give the general setting for the research, the scope of the experiment will be given and then the standard (traditional) cloze procedure will be described as it has been used by several researchers. The various aspects of this topic include deletions, length of blanks and passages, and parts of a

passage left intact. Then, areas of investigation will be looked at, including deletion ratios and patterns, scoring, ways of improving students' scores and the education trends toward the use of discourse, context, and information gaps.

In the subsequent part of this chapter the key areas of investigation in this research paper will be presented. They are:

a) the importance of discourse to the teaching of English as a second language,

b) the definition of the terms "discrete" and "global" and opposing arguments as to which of them reflects the nature of the cloze procedure,

c) the linguistic nature of non-native speakers of English, and

d) the implications of these key areas of research.

In the last part of this chapter a bridge will be made from the review of the literature to the research design in which the goals and use of the previous research will be discussed. It should be noted that an effort to link the rationale of the design to the key points in the review will also be made throughout the second chapter. This has been done to firmly establish the bonds between the past research

and the present development of a new and somewhat complex research design. The original design used in the pilot project and the more conservative revised design used in the main project were developed to discover if students could be taught with the color-coded parts of speech to look beyond sentence boundaries for clues to help them achieve higher scores on cloze passages.

THE GENERAL SETTING

This section of the research paper will endeavor to explore a number of questions about the cloze procedure, recent trends in education, and the linguistic attitudes of non-native speakers of English. The purpose is to show how each is related to the use of color-coding in the present ESL experiment with the cloze procedure in order to justify the effort of carrying out the research. The questions are as follows:

a) What is the scope of the research?

b) What is traditional cloze procedure?

c) What are some of the controversial areas of the cloze procedure as they relate to this research paper?

d) Can color-coding be a way of improving students' motivation for and their proficiency in doing the cloze procedure?

e) What are recent education trends that have lead to the use of color-coded cloze procedure?

f) How does color-coding as a trend fit into the present research?

g) How do discourse and the nature of the cloze procedure overlap?

h) What is the history of the arguments in the global/discrete controversy as it relates to the cloze procedure?

i) How do non-native speakers of English feel about doing the cloze procedure?

j) What are the contributions of the key areas of investigation to the present research?

What is the scope of the research?

It should be noted here that the purpose of the following literature review on the cloze procedure and color-coding is to set the stage for the research model of this paper. Although there is a vast array of research which has been undertaken since 1953 when Wilson Taylor first described the cloze approach, only those areas relevant to the present project have been selected for review. Likewise, of the limited amount of work that has been done on color-coding in education, only those relevant areas have been included in this paper.

A selection of the areas or subtopics of cloze research well summarized in Rankin's overview (1974) of 1958 to 1974 will be considered in this paper. Of Rankin's subtopics which include "readability, reading comprehension, learning, information, redundancy, thinking, aptitude, readiness, listening, flexibility, and context clues" (1974, p. 2) this paper will be looking at reading comprehension, learning, redundancy, thinking, and context clues in the following way. This research deals with adult non-native speakers of English. These college and university ESL students participated in a study using the standard cloze procedure and color-coded parts of speech. The purpose of the study

was to determine if color-coded parts of speech in cloze passages would be able to encourage and assist students in looking beyond the immediate sentence of a cloze blank to find clues as to the filler that matched the word originally deleted from the passage.

The amount of research already done and which continues to be done on the cloze procedure is evidence of the great contribution Taylor has made to education with his easy to make gap-filling exercise. At the same time the interest in so much research by so many researchers is indicative of the ongoing controversies which surround the cloze procedure. This paper is a reaction to the debate which seemed to be of primary importance in the late 1970's and early 1980's between the Oller group and the Shanahan group. The controversy was whether or not the cloze procedure was "global" or "discrete" in nature. To put it another way, Chihara, Oller et al (1977) appeared to show in their experiment that students did use inter-sentential cues to decide on what fillers to put into the cloze blanks. Shanahan et al (1982, 1983, and 1984) claimed to demonstrate such was not the case. Their reasons and arguments will be given later.

Before proceeding to this key controversy, however, it should be noted that the cloze procedure has been shown to be effective for teaching reading to the type of target group in this present research, i.e. ESL students. (Craker, 1971; Oller and Conrad, 1971; Oller, 1972a; Anderson, 1973;

Hinofotis, 1977; Streiff, 1978; and Soudek and Soudek, 1983) and with adults (Peterson, Paradis, and Peters, 1973; and Rankin, 1974). Also before proceeding, a look at the definition of the traditional cloze procedure is in order.

What is traditional cloze procedure?

As to the appearance of a typical traditional cloze test Ashby-Davis (1984) summed it up as being a) a passage of about 300 words with b) the first sentence left intact to give students a sense of the content and c) 50 deletions with d) every fifth or seventh word deleted to ensure randomness in the deletion of syntactical and lexical items. She said that answers that are e) either originally deleted words or acceptable alternatives are given credit. Peterson et al (1973) and Valmont (1983) noted that the traditional cloze procedure uses a standard blank length of 15 spaces. Giving credence to standardized blank length, Valmont went on to elaborate on the use of standard versus non-standard length cloze blanks. He concluded that a standardized cloze blank is useful for teaching because it did not allow the length of the blank to give a clue that would detract from the students' need to make an effort to use the available syntactic and semantic clues.

It was this traditional cloze which was the starting point of the present research, i.e. as the basic format to be used with the control and treatment groups. In the pilot project for the treatment groups the traditional cloze was

modified only by color-coding the words and/or blanks according to the appropriate part of speech represented. In the major project the color-coding was used in the same way, except the traditional cloze was modified. The following history of the cloze procedure gives among other things the reasons for that modification.

What are some of the controversial areas of the cloze procedure as they relate to this research paper?

Researchers have investigated various methods of deleting words and of scoring the students' replacements. It was found by Foley (1983) using random patterns with deletion rates of every fifth to twelfth word that there was no difference in difficulty of replacement. However, several researchers (MacGinitie, 1961; Ramanauskis, 1972; O'Reilly and Streeter, 1977) preferred the deletion of every fifth word because it sampled meaning and grammar more thoroughly and objectively while keeping enough information for the students to be able to complete the cloze blanks.

Such evidence supporting the every fifth word deletion pattern added justification to the use of this traditional cloze pattern in the pilot project in the present research design. This evidence built on the benefits of the traditional cloze procedure which are as follows:

a) The traditional cloze design of approximately 300 words had proved to be of a convenient length as it allows

for the passage to be typed double-spaced on no more than two pages.

b) Furthermore, this length and the every 5th word pattern allowed for 50 blanks which was convenient for calculating scores.

c) The traditional cloze design also allowed for the first sentence and the last sentence to be left intact to give the reader a sense of the general meaning of the passage.

With regards to every nth word deletion as a random pattern (as opposed to a rational pattern in which there is control in the selection of deleted items), there was some disagreement by Taylor (1956), Rankin (1974), and O'Reilly and Streeter (1977). In order to improve the validity of the cloze procedure as it relates to locating information for filling the cloze blanks they proposed rationally deleting only lexical items, i.e. nouns, verbs, adjectives, and adverbs. Martin (1973), rather than use the random "every nth" word deletion pattern, decided to delete using a rational cloze form in which he chose to delete any one of the parts of speech from among the following categories: "(1) nouns and pronouns (2) verbs (3) adjectives and adverbs (4) prepositions (5) articles and conjunctions" (p. 103).

Like Martin, Cohen (1980) argued that using "discretionary judgement modified cloze) in determining which words to delete rather than simple random deletion"

(p. 128) had merit. For the present research the random (fixed-ratio) blank design was chosen for the pilot project but was replaced by a rational cloze in the main project. The change was made to take advantage of the large number of re-iterative-word clues in the text chosen by the Ritsumeikan teachers for their university students. However, whatever the deletion pattern, the contribution of the above researchers' focus on parts of speech is the credibility given to the focus on parts of speech in the present research design.

Also having a bearing on this research paper was the matter of scoring. There was a controversy over the use of exact-word and acceptable-word fillers to replace the deleted words. In her study with bilingual Hopi students, Streiff (1978) considered both the strong research evidence in favor of the exact-word method for native speakers (Oller, 1972a) and the speculation of Oller of the fairer, yet reliable, sensible scoring method, using synonyms as alternatives of the exact-word, for non-native speakers. By "fairer" Oller meant that by accepting alternate answers which conveyed the same meaning as the original word, students had a chance to get higher cloze scores than they might if only exact-word answers were accepted.

Consequently Streiff used both sensible and exact-word methods of scoring but found like, Anderson (1973), and Stubbs and Tucker (1974), that language proficiency could be

confidently indicated by the more exact and less time-consuming exact-word scoring method.

On the other side of the controversy, Cohen (1980) and Hinofotis (1977a) found respectively that acceptable-word scoring was more reliable and seemed to discriminate among student proficiency levels more than exact-word scoring.

From the above evidence it would seem that the controversy between the exact-word and the acceptable-word scoring methods is not over. This, then, is one reason why the present research design followed the example of Streiff and proposed to use both scoring methods for comparison. Another reason for the inclusion of the acceptable-word method was due to the separate, but overlapping, observations of Stump and Hinofotis. Stump (1980) found that some students' answers violated local constraints (grammatical and semantic influences) and other answers violated long range constraints. Hinofotis (1978b) noted that some answers were acceptable within the context of the sentence, but violated long range constraints.

The above observations of Stump and Hinofotis pointed to the need to consider long range constraints in the choice of scoring methods and to thus choose the acceptable-word scoring method. Indeed, it was the goal of this research paper to see whether or not the students were looking beyond the sentence of the cloze blank. In fact, to determine this, it appeared a modification needed to be made to the acceptable-word scoring method to take advantage of the

observations of Stump and Hinofotis. Consequently this researcher decided that an answer should be scored more precisely than just receiving a point for being acceptable and breaking no constraints either at the local or long range level. It was felt that if students were supposed to look beyond the sentence for clues (a more difficult task than looking at the local level), then they should be rewarded more for not breaking long range constraints than for not breaking local constraints.

The observations of Stump and Hinofotis and my goal to have students look beyond the sentence level lead me to design a scoring procedure which could possibly make finer distinctions than either the exact-word or the typical acceptable-word scoring methods. The scoring procedure was designed to include both exact-word scoring and an innovative technique which gave weight to each answer according to whether it was a) exact, b) acceptable to the meaning of the passage, or c) acceptable only to the particular sentence in which it was located as each of these related to the availability and types of clues. This scoring procedure will be described in more detail in Tables 14 and 15 located in Chapter Three.

With regards to the spelling of the fillers, Peterson et al (1973) decided to allow for mistakes in spelling as long as the intended word was evident and otherwise appropriate for the cloze blank. Following the above ideas about spelling, the present research design adopted the idea

of accepting misspellings as correct. However, when the spellings made the word fall into a different grammatical category, the answers were to be scored as 0. For the main project when the filler was available somewhere in the passage, misspellings were not to be accepted. In such cases misspellings would indicate that the student had not been totally aware of the same-word re-iterative clues.

What are some considerations about students' motivation and proficiency as these relate to setting up the cloze tests?

Researchers have pointed out that the traditional cloze is "an extremely difficult and anxiety-invoking test" (Cranney, 1972; Rankin, 1974; and O'Reilly and Streeter, 1977). Thus this section of the literature review will deal with various solutions to these problems given by various researchers. It will also show how the CCC is a logical extension of the research and explore the merits of the CCC as a possible solution.

Solutions being considered in this section include a) explaining the nature of cloze tests to students, b) giving a guessing strategy for students to follow, c) supplying clues within the text itself, and, d) providing feedback.

The first solution, explaining the nature of the cloze procedure to relieve the anxiety of the students, arose out of the efforts of the researchers who determined that a cloze score of approximately 43% would compare to a reading

comprehension multiple-choice score of (approximately) 75% (on a standardized test) (Bormuth, 1967, 1968; Peterson, et al, 1973; Streiff, 1977; and Ashby-Davis, 1984a,). This information allowed the teachers in the present research to inform the students that they did not have to worry about seemingly low scores on the cloze tests and should be satisfied with scores around 40%.

The second solution came from the work of Ashby-Davis (1984b) who, after determining what good readers do when they take cloze tests, outlined and shared their guessing strategy. This strategy can be used to help other students to improve their cloze scores. In fact, it was used in the present research for both the treatment and control groups to make the task easier and worthwhile for all groups, regardless of the inherent advantage or disadvantage of the color-coded or other treatments. A copy of the guessing strategy, as given in Table 1 below, was attached to the inside of each student's test passage folder to be used as needed during each testing session.

TABLE 1
OVERALL READING COMPREHENSION STRATEGIES

Successful cloze text takers often follow these strategies.

a) They read the first and last sentences of unmutilated text to determine the gist (main idea) of the passage.

b) Then they skim the mutilated text trying to get clues to the gist.

c) They read from the beginning to the end of the text, trying to find meanings for the omitted words by checking context clues before or after the omitted words or from general knowledge related to the text.

d) Finally, they reread the entire text when they have guessed all or most of the words, filling in words previously not guessed or correcting words already guessed in terms of the total text. (p. 587)

Ashby-Davis (1985, p. 587)

The third solution revolved around various kinds of clues being given somewhere on the cloze passage paper. Two types were evident in the literature: a) partial fillers and b) matching words.

Partial fillers and equivalent meaning clues, including "grapho-phonic, syntactic and semantic information (Goodman,

1970; Propst & Baldauf, 1981) plus graphic clues such as "one short underline...for each letter of the deleted words" (Valmont, 1983) were suggested as ways to assist in determining replacements for missing words. As has already been mentioned, the present research design followed the standard cloze procedure which uses standard-length blanks, so Valmont's short underlining could not be used.

One grapho-phonic clue, i.e. the initial letter of a word, as mentioned by Henk (1981), Soudek and Soudek (1983), and Valmont (1983) could have been used in the present research to understand the effect of initial letter clues in improving cloze scores as compared to the use of color-coded parts of speech. In fact, Valmont found that using initial letters of the deleted words as clues was effective but it appeared to me that this could cause students to increase their focus on the immediate sentence of the blank rather than encouraging them to look beyond the sentence level. In light of the supposed localizing effect of initial letters and other graphic aids on the search for clues to fill in the cloze blanks, the pilot project tested one group of students using color-coded blanks. The purpose was to determine whether the color-coded blanks are used by students to find answers using local clues at the expense of the use of more distant clues. When the mean scores of each of the control and treatment groups in the pilot project (see the bar graph in Figure 1 in the Appendices) were compared, it appeared that just giving color-coded blanks

only as clues had the least positive effect and possibly even a negative effect on cloze scores. Keeping in mind this result of the pilot project and because there were not enough students in the main project to allow for four types of groups, the color-coded blank treatment was dropped from the research design.

The idea of matching word clues came from several researchers who provided the intended fillers somewhere in the passage. Some fillers were included as follows:

a) at various places in the margins (Ashby-Davis, 1985),

b) in a list of five words on the right side of the page for matching one to one with the appropriate blank (called "list") (Propst & Baldauf, 1981),

c) below the cloze blanks three choices (called the "maze") (Pikulski and Pikulski, 1977) and

d) below the cloze blanks four choices (called "multiple choice cloze") (Aitken, 1978).

Neville and Pugh (1971) explained the benefit of matching cloze procedure to the student by stating that:

> matching cloze parallels and measures the actual reading process in that it often forces observable regression...The simple act of rereading, erasing, writing new answers, and again rereading provides considerable evidence that the reader is editing. (p. 105)

Another benefit was pointed out by O'Reilly and Streeter (1977). They said that in using the multiple-choice procedure "excessive difficulty and ambiguity of the original cloze testing situation appears to have been considerably reduced" (p. 48). (Logically, the same benefit could be given by the maze procedure.)

Upon reflection, it seemed to me that each of the above attempts to include clues somewhere on the page of the text had the same problem. Looking for words in the margins or under the lines of the text is a rather unnatural process for a reader to undertake. A more natural process, while maintaining the benefit of a matching type cloze, might be one in which the clues could be found in the text and along the line of the sentences instead of below. The idea of color-coding the parts of speech and the cloze blanks appeared to be a reasonable solution in as much as re-iterative words (acting as matching words) would stand out more and possibly be identified as the necessary fillers.

It should be admitted here that it would be very difficult for any unmodified cloze passage to contain matching fillers for all of the deleted words. The color-coded cloze passages are no exception, so the color-coded procedure cannot be classified as a true matching exercise, nor claim all the benefits of matching-cloze procedures. But the color-coded cloze procedure might be able to claim the benefits in proportion to the number of matching fillers (same-word or same-root re-iterative clues) that are

available in the passage. (Whether or not this was true in the present research will be discussed in Chapter Four.)

In the passages selected for the pilot project research, for the 50 deletions per passage, as few as 26 matching fillers and as many as 32 matching fillers were located somewhere in the text. In those passages selected for the main project there were as few as 30 matching fillers and as many as 40. For the purpose of the present research, i.e. trying to determine if students could be trained using color-coded parts of speech to look beyond the sentence of the cloze blanks for clues to the required fillers, it was not necessary to have matches for all the fillers. It was hoped that at least the students would be able to find the available matching fillers. This would have suggested that the color-code parts of speech had had some influence on the purpose of this research. Tables 21, 23, 25, and 27 in Chapter Four show how many matching filler blanks were filled and how many were filled correctly.

It must be admitted here, notwithstanding the proposed advantages of the CCC, that the rationalized color-coded cloze procedure was somewhat cumbersome to construct but in a different way from the other matching cloze procedures. In their multiple-choice cloze (matching) design Streeter and O'Reilly (1977) increased the amount of effort needed to prepare the cloze tests. The increase was a result of taking care to use distractors of the same part of speech to ensure students would have to look at meaning instead of

just syntactic clues to find the blank filler. Although the rationalized color-coded cloze skirted this extra high level cognitive effort, it required a great deal of lower level cognitive energy to locate the re-iterative-word clues.

Another drawback in using the CCC was that the CCC required the maker to analyze the parts of speech and then code them with the defined colors consistently and correctly. Sometimes it was not as easy as one might think to assign the appropriate color. For example, in the sentence, "He worked at a French Canadian Hospital", the word "French" can be colored "green" to indicate that it is an adjective. But in the sentence "He worked at a Native Hospital" the word "Native" is not as easily coded if "native" is also used in the sentence "He is a native." The dilemma is whether "Native" should be colored "green" to show it is an adjective or "blue" to show it is a noun." Fortunately, however, in the passages used in the present research there were not very many difficulties like this.

On the surface, there was the additional difficulty of physically color-coding the cloze passages. Each word had to be given a computer code to color the word appropriately. For the CCC project this took a lot of time, especially for the pilot passages. But a revised technique helped tremendously in reducing the coding time for the main project passages. The techniques will be described in Chapter Three and in more detail in Appendices B and F. In the future, with more advanced computer hardware and

software, the coding process should be even much less time consuming.

A fourth solution to help students improve their performance on the cloze procedure is to provide feedback. In fact, Rankin (1974) stressed the lack of improvement in reading comprehension when cloze materials were used without feedback. Ideally each cloze test should be reviewed with the students but time and security concerns because of the use of several classes doing the same set of tests at different times made this unmanageable in the present kind of research.

In the CCC project two kinds of feedback were given. The first kind of feedback was suggested by the matching cloze procedure, i.e. when there is a set of blanks and another set of words to fill the blanks such that each word can only be used once and each blank only has one correct filler. It was felt that CCC, although it can not claim this advantage, might be able to gain from the colored-part-of-speech clues, where the colored blank must be matched with a filler of the same color representing the same part of speech. The second, more traditional though partial, kind of feedback was given when all the students were allowed to look at the originals of the practice passages. In the pilot project the students took about a five minute look after the practice test in the subsequent testing session while in the main project the students looked at the

answer key for about five minutes right after each practice test.

In Chapter Five the above CCC solutions to the problem of student cloze test anxiety will be discussed in terms of the outcome of the results of the pilot and main CCC projects.

What are the recent education trends that have lead to the use of color-coded cloze procedure?

So far in this chapter on the review of the literature the cloze procedure has been defined and various modifications have been presented, some of which were chosen for the present research. Those choices were made in light of recent trends in education including a) passage analysis, b) information gap, c) educated guessing, d) vocabulary and grammar in context, and e) redundancy.

One of the most important trends at this time and one which makes a great deal of sense is the use of passage analysis rather than just sentence analysis. Long (1981) urged students to go beyond "knowing the lexical value of individual words, or of retrieving factual information from individual sentences" (p. 72). Richards (1980) stressed that "language in any authentic communications event cannot be understood entirely by considering sentences in isolation" (p. 64).

Mohan (1986) has been concerned with discourse and emphasizes that an "important part in competence in reading is the ability to draw inferences from written text." He subsequently defines inference as "a relation between sentences" (p. 129).

Referring to cloze and discourse, Foley (1983) noted that Chihara and Oller, (1977); Anderson, (1980); and Bachman, (1982) believed that cloze tests are sensitive to discourse constraints. Cohen (1980) thought that cloze procedure could even encourage students to consider the passage as a whole rather than viewing it as being composed of isolated sentences.

A second important trend in education, related somewhat to passage analysis and certainly to cloze procedure, is the idea of reducing or filling an information gap. Morley (1972) contributed to ESL with her many kinds of gap filling exercises which have motivated students to look for missing (needed) information and thus caused them to use English to communicate. Mohan (1986) re-iterated Morley's idea and expressed the need for students to increase their "ability to communicate successfully across wider and wider information distances" (p. 110).

In this research paper <u>the goal was to determine if, in fact, students were able with the cloze to be trained how to find information (clues) for filling in blanks, at greater distances than just at the sentence level</u>. Correct and/or acceptable responses to blanks which require the use of

beyond-sentence clues would indicate that the students have made use of discourse clues and constraints.

A third trend in education revolves around educated guessing, as opposed to rote learning. Foley referred to one kind of guessing in language learning as "grammar expectancy" in which the student as decoder relies (or should) rely on the highly redundant nature of a message to make accurate restorations. These "accurate restorations" are a result of students processing information from within the passage. The relation of guessing to comprehension of discourse can also be seen in Katz and Fodor's (1965) definition of literal comprehension (as mentioned by O'Reilly and Streeter) which refers to the understanding of grammatical and semantic relations both within and across sentence boundaries.

In going a little further in understanding Katz and Fodor's definition, a fourth trend in education becomes apparent. It can be referred to as learning vocabulary and grammar in context. This fits in well with the idea that the discourse level is more important than the sentence level for teaching vocabulary (Chastain, 1976; Rivers, 1968; Nilsen, 1976; and Judd, 1978). Also Judd commented that learning words in context helps retention and a wider and more precise understanding of them.

On the subject of grammar, Wilkins (1975) and Janssens (1977) took opposing positions. Janssens preferred communicating and accomplishing goals to learning about

grammatical rules. On the other hand, Wilkins, also believing in communicating ideas, stressed the role of grammatical rules in the learning process as they are the foundation which allows language functions to successfully communicate the intended meaning of speakers or writers.

From looking carefully at these opposing arguments about grammar and communication, it is evident that there is possible common ground, i.e. students must know how to use grammar actively as a tool in context rather than just to know about it passively.

Still on the subject of grammar and its influence on the cloze procedure, Cohen (1980) explained an important connection between grammar and cloze. In being able to check for awareness of grammatical relationships, and including inflectional clues to cohesion in discourse, ungrammatical cloze answers can provide evidence for too-local reading, a trait common to non-native readers. Evident in this explanation for the purpose of the present paper is that students do (or if they do not, should) use grammatical clues to be able to fill cloze blanks, grammar being considered as a tool rather than as a nuisance in the non-natives' attempts to become proficient in English.

Aitken (1977) continued the argument for the value of grammar as it refers to using redundancy to fill in cloze blanks. He argued that without knowing grammar the student could not take advantage of the redundancy in the language and thus would have more difficulty with cloze tests.

It is the students' awareness and understanding of this redundancy as it is expressed through the vocabulary and the grammatical structure that the color-coding of parts of speech was aimed to improve. The present research, thus, attempted to use color to make students more aware of the vocabulary and structures in the practice passages to be able to use them to guess the words to fill the cloze blanks.

If Aitken is right that students' awareness of redundancy is an indicator of their overall language proficiency, and, if the color-coded clues are shown to heighten this awareness, then it could be said that the color-coded cloze procedure can lead to greater language proficiency.

Although the literature about the cloze procedure that I reviewed pointed to the advantage of students being aware of redundancy, I also found a negative reaction by Tuinman (1972) to an increased awareness of redundancy in a passage. He discovered that when students tried to sift through a greater number of non-target items, they lost speed and accuracy in finding the correct response for the cloze blank. This lead me to question the effect of color-coding all the words, if all the coding does is increase the number of words to be scrutinized. Color-coding parts of speech does not increase the context in terms of number of words, but hopefully in the amount of awareness of context clues available. The result may be the problem Tuinman noted

above, i.e. that students will be slowed down by the extra information made aware to them. On the other hand, it can be argued that color-coding parts of speech should lead to the students focussing on clues given by the particular parts of speech rather than on all the parts of speech and therefore bring some speed back into the searching process by reducing the number of words to be looked through.

The immediate question thus would be whether or not color-coding all the words and blanks in a cloze passage causes an information overload which in turn decreases the students' scores? This question will be discussed further in Chapter Five after the research data has been collected.

Summary of language trends

Whether the recent trends in ESL deal with discourse, information gaps, guessing, redundancy, vocabulary, or grammar, they all can lead toward language proficiency. Aitken (1977) with the help of Foley (1983) ties the recent trends together. In Table 2 below the fourth quote was found in Foley's article and the other quotes were given in Aitken's article.

TABLE 2
QUOTES FROM *AITKEN (1977) AND **FOLEY (1983) ABOUT RECENT EDUCATIONAL TRENDS.

*Language proficiency is more than mastery of a specific number of discrete structure points and lexical items. (p. 62)
*Reading comprehension in ESL depends on a knowledge of the meanings of words, phrases and sentences, and of arrangements of words, phrases, and sentences according to the conventions of written English. (p. 62); Thomas (1970, p. 164)
*Three layers of language meanings that must be dealt with in reading comprehension (1) Meaning carried by the lexical items. (2) Meanings carried by the grammatical structures. (3) Socio-cultural meanings." (p. 62); (Fries, 1963)
**Because the message is normally highly redundant, the decoder should be able to make accurate restorations of many of the blanks that appear in the passage. (p. 58)
*The correspondence between the ESL student's conception of English redundancy becomes an index of his overall language proficiency in English. (p. 65)

It would seem possible that the cloze procedure, in which gaps need to be filled with information given by clues

embedded in one or more vocabulary items and grammatical structures located somewhere in a passage either within or beyond the sentence of the blank, could also yield an index of the non-native adults' proficiency in English.

How does color-coding as a trend fit into the present research?

There is no doubt that color is playing an ever increasing part in our lives. Black and white television and movies, for the most part, are out of style. Color is everywhere in the entertainment field, in business, and in education. It is in the business field, however, where color-coding has been exploited the most, such as for organizing office files and for helping customers discriminate amongst product sizes. Perhaps because of financial restrictions education has only been able to begin exploiting the use of color. There are now instructional films in color, especially in the video format, and books are illustrated in sophisticated four-color color printing. Some books are organized into chapters or topics by color and some even have key words in a passage highlighted in one color. But there the color-coding stops. Multi-colored printing is expensive.

Attempts to use color or color-coding in teaching language have been made but subject to financial and technical restrictions. For example, by at least 1926, in

the tenth edition of her book called "On the Teaching of English Reading", Nellie Dale used colors to differentiate the graphemes of English. She used "red" for short vowels, "blue" for voiceless consonants, "black" for voiced consonants, and orange for semi-vowels. However, other than eight pages of colored plates (grapheme charts) and three pages of colored examples, Dale's book is in the usual black print. In another language text, i.e. the 1954 edition of "Reading with Phonics" the authors, Hay and Wingo, took advantage of improved color reproduction techniques to have several multi-colored pictures, and colored words on almost every page. However, they only used one color, "red", to supplement the basic black print. Actually they used "red" only to highlight the graphemes being studied in the particular lesson. Unlike Dale they did not color-code the graphemes.

The most well known user of color and color-coding for teaching languages, especially non-native languages, was Galeb Gattegno. In his paper called "Words in Color" (1964) he explained how he used color to divide the graphemes of English into their appropriate phonetic categories. In other words, his purpose was to help students match the spelling of words to the way they are pronounced. What Dale had started, Gattegno made even more detailed and colorful, using not four colors including black, but 21 colors for vowel sound categories and 30 colors for consonant sound categories. Like Dale, Gattegno used colored charts to

display the colored categories. He, too, was unable to print a text in color. However, cost was not given as his rationale. Rather, from an educational point of view, he believed that students should write (and thus read) in one color.

Of the above authors, the most influential on the present research paper was Gattegno (1964). Although he was primarily working at the grapho-phonemic level, he did color-code parts of speech. He referred to this in his 1964 article called "Words In Color" where he stated that there is a card for each word, the card being the color of the word's part of speech. He further noted that if a word had the potential of being used as more than one part of speech, then the card would be of the appropriate number of colors. However, he did not mention which color meant what part of speech.

Gattegno's research and use of color-coding is extremely important for the present research paper. Concerning color blindness, even when it existed, he saw in his teaching that there was no interference. He stated that students could still differentiate the shades of the colors. Even more significant is what he said about his method being analytic and synthetic at the same time, while other methods were either one or the other. He pointed out that color-coding could help students differentiate the graphemes from each other and put them into their appropriate pronunciation group simultaneously. In "Words in Color" Gattegno provided

some testimonials from teachers who obtained good results and Dodds (1966) stated that this was true with beginning readers, remedial readers and illiterate adults. On the other hand, Cunliffe (1986) in her unpublished critique of Gattegno's colored words, pointed out the concern of McHugh (1968) that the positive effects of Gattegno's color-coding had a lot to do with the dedication, motivation and competence of the teacher. It should be noted here that with the color-coded cloze procedure the student has to interact more with the passage than with the teacher. Therefore, it would appear that McHugh's criticism of the intervening effect of the teacher should not detract from the value of the CCC.

In the 1960's Gattegno's color-coding as part of his "silent way" method was popular in schools in the United States and was still being used in the late 1970's to teach other languages to Peace Corps (American) and CUSO (Canadian) volunteers. Being one of the latter volunteers, the author of the present research started using color-coded parts of speech in teaching English to immigrants in Canada and to nationals in Saudi Arabia.

In Upper Volta in 1975 Montety (1977) used the silent way and colored-coded lines with colored chalk on the blackboard to elicit past tense sentences from his students as part of their review. For use without color when it was not available he devised a set of various shaped lines to do the equivalent. Although he coded words, it was not until

later that other teachers started to use color-coded parts of speech. However, at this time, there is only one other teacher, known to the author, who is using color-coded parts of speech to teach English as a Second Language, and the distribution of colors is a little different from the system used by this researcher. This is partly because she has defined her categories of parts of speech slightly differently and partly because she has labelled some of her categories with different colors from those used by the present researcher.

From my review of literature and my experience with color-coding in teaching English it can be seen that using color-coding is not a recent trend. Yet it has shown potential but has been defeated, at least in part by the cost of the necessary technology, and even by the lack of technology. However, with ever newer and cheaper technology in color printing, the time may be right to revive the use of color-coding. It should be pointed out that, because of similar reasoning to Gattegno's that students should use black-on-white when they write, the color-coding should be phased out. This means that color-coding might be used at the beginning of a course but by the end there should be no color-coding at all. The present research design incorporated this idea and thus the post-test was left uncolored for the treatment groups as well as the control groups. Meanwhile it was felt that the advantage in color-coding that Gattegno found in both differentiating and

categorizing for graphemes also could apply to these analytic and synthetic techniques in finding clues in the color-coded cloze procedure. By using only five colors (to distinguish the major grammatical categories) instead of Gattegno's 51, it was thought the load on the memory could be reduced and decoding made less confusing.

To summarize how color-coding fits into the present trends and thus, into the cloze procedure research, it was hypothesized that by being given color-coded parts of speech students would be helped to differentiate the parts of speech from each other, and then to mentally group the similar parts of speech in order to look through the passage for the words in the same group to fill the information gaps. Sometimes (from 52% to 64% of the time in the passages analyzed for the pilot research and 60% to 80% of the time in those for the main CCC research) the fillers found in the text were exactly the same or had the same root as the deleted word. Sometimes the key clue words in the passage were synonyms or antonyms in the same part of speech. However, as it is obvious that all the key clue words cannot always be in the same part of speech group as the deleted word, so the strategy cannot be foolproof. Thus this strategy at best can only be classified as one of guessing but an educated rather than a wild one. This is because the color-coded guessing strategy allows the students an organized method of searching through the text. With the time and energy saved by looking through the same

part of speech, the student can look systematically through other parts of speech for roots of words which could have the required meaning and then adjust that word to the correct part of speech. Given grammatical relationships that were highlighted by the color-coding, such relationships were expected to assist the students in finding words to fill the cloze blanks also. Such use of grammatical relationships were hoped to be reflected in higher cloze scores for the CCC groups than for the control groups.

To put the above briefly, the proposed advantage of the color-coded cloze procedure was that by using it CCC students would be able to make a more organized and consequently a more thorough if not faster search for clues to fill in the missing words. If the proposal proved true, it would seem reasonable that it should be true for inter-sentential searching, not just for intra-sentential clue searching. With the benefits of the guideposts provided by the color-coded parts of speech, it was anticipated that students would find it less intimidating and also easier to look beyond the sentence of the blank for clues. Therefore they would be able to fill in more blanks correctly, thus improving their cloze scores. It was also hoped that students would be able to internalize the parts of speech so that the color-coding could be removed and still allow the students to use the same parts of speech guessing strategy across sentence boundaries.

WHAT IS THE KEY AREA OF INVESTIGATION UNDERLYING THIS RESEARCH PAPER?

To answer this question there are four subtopics to be looked at. They are:

a) the link of discourse to the nature of cloze procedure,
b) the nature of cloze procedure--global or discrete,
c) the chronology of the global/discrete controversy
d) the motivational nature of non-native speakers of English, and
e) the role of color in assisting non-native students to locate more global clues with the aim of improving the students' cloze procedure scores.

How do discourse and the nature of cloze procedure overlap?

Shanahan and Kamil (1982, 1983, and 1984) in their research on cloze procedure tried to show that students use intra-sentential rather than inter-sentential clues in finding fillers for cloze blanks. The question they considered was whether cloze is global or discrete in nature. Their starting point was opposite to the contemporary opinion which was dominated by Halliday and Hasan (1976), and Oller et al (1978) who were convinced from their own research that cloze was global; that is, it did test the students' use of context clues across sentence boundaries. Their research will be discussed briefly later in Chapter Three.

Given the recent trends, especially about being able to comprehend text at the discourse level, Shanahan and Kamil's research had significant influence on this paper. In fact, it provided a starting point for the present research question, i.e. can students be trained in the cloze procedure such that they look beyond the immediate sentence of the cloze blank to find clues to help them fill the blank? An answer to this research question will add to the controversial answers supplied by the review of the literature which follows immediately below.

Is cloze essentially global or discrete?

On the global side of the argument according to Foley (1983, p. 59) were Halliday and Hasan who saw a need for the use of both clues within and beyond the sentence. Oller (1975) and Chavez and Oller (1977) believed students could be trained with the cloze procedure to use global reading-comprehension skills. Cohen (1980) even defined cloze as being able to test the ability to read and write cohesive English.

Foley (1983) gave credence to the global nature of the cloze by explaining the mechanism of this global language proficiency in the following way:

> In cloze procedure all sorts of deletions, whether they be content words or connecting devices, carry with them constraints which may range backwards and forwards across several sentences. This places a strain on the short-term memory which presses the student's grammar expectancy into operation, the accuracy with which the student is able to supply the correct or acceptable response can therefore be taken as an index of the efficiency of the student's developing 'grammatical' system. (p. 59)

Ashby-Davis (1984) also gave the argument credence by explaining that cloze:

> ...draws at once on the overall grammatical, semantic, and rhetorical knowledge of the language....and students have to understand key ideas and perceive interrelationships within a stretch of continuous discourse, and they have to produce, rather than simply recognize, an appropriate word for each blank. The focus of the task involved is more communicative than formal in nature, and it is therefore considered to reflect a person's ability to function in the language. (p. 99)

Streiff (1978) listed supporters of the global proficiency of cloze. The list included Darnell (1970), Oller and Conrad (1971), and Oller (1973 and 1975) and Hanzeli (1977) who apparently had shown in their research that cloze could lead to students having global English proficiency.

Stump (1978) tried to prove the global nature of cloze by reporting the ability of the cloze procedure to "so

accurately predict scores on both the Lorge-Thorndike Intelligence Tests and the Iowa Tasks of Basic Skills (in that) all are essentially measuring the same thing - global language proficiency" (p. 57). Ashby-Davis offered the same kind of proof when she reported "substantial concurrent validity (of cloze) ...as an integrative test of overall proficiency in English as a second language (Oller & Conrad, 1971; Oller, 1972; Irvine, Atai & Oller, 1974; Stubbs & Tucker, 1974; Hinofotis, 1980)....(on tests) such as the UCLA English as a Second Language Placement Examination" (p. 99).

Although through the years a great deal of support was given to the idea of cloze being global in nature, even proponents such as Streiff admitted some contrary evidence. Streiff admitted the observation of Klare et al (1976) that cloze answers are most likely to use constraints that occur within a range of only four or five words before or after the blank in question. Likewise, Ashby-Davis included Anderson's reservation (1980) about the cloze being a low level skill, suggesting it was not integrative, but discrete, that is, working only at the sentence level with regards to finding clues to fill in the cloze blanks.

Foley (1983) came to a compromise between the global and discrete position seeing the cloze as an intermediate skill "able to assess the student's knowledge of the syntax, lexis and rhetorical devices...(rather than) the extent the

student has understood the conceptual world of the writer" (p. 61).

If many researchers favored the global argument and were convinced that the cloze was effective for teaching, the notion was to be vigorously attacked by Shanahan and Kamil (1982, 1983, 1984) among others. In 1986, Reutzel looked back at the research of Shanahan, Kamil and Tobin (1982), and Leys (1983), plus the literature review of Jongsma (1980). He noted the researchers' conclusion that the traditional cloze procedure could not effectively measure inter-sentential comprehension, and Jongsma's conclusion that cloze procedure was rather ineffective for teaching reading comprehension.

The debate involving the global versus discrete nature of cloze has been fervent. Although the major points of view have been identified and described in this paper, to do justice to the main researchers, a chronology of the battle will now be given. The chronology will also provide the basis for the research questions in the present research paper and for the design of the methodology.

What is the chronology of the global/discrete controversy?

1971: Halliday and Hasan

Halliday and Hasan (1971) wrote that "the cloze procedure transcends the confines of a single sentence" (p. 51).

1972: Carroll; Chihara & Oller (1977)

Chihara, Oller et al (1977) pointed to one of the original key players in the global/discrete question as being Carroll in 1972 who wrote that the "cloze procedure is one of the techniques that has been proposed as a possible basis for investigating discourse constraints" (Carroll, 1972). They went on to present Carroll's 1972 claim that linguistic clues are usually in the same sentence as the blank and that grammatical clues play a greater role than semantic clues in cloze scores.

Chihara and Oller (1977) using "two passages of prose...selected from texts written for non-native speakers of English" (p. 94) tested native and non-native speakers. The later were either at the basic, intermediate, or advanced proficiency level. They were given scrambled and regular forms of the passages. Chihara and Oller concluded that "the cloze procedure is sensitive to discourse

constraints ranging across sentences" (p. 68) and that the higher the proficiency level of the students, the more likely they are to take advantage of the constraints.

Chihara and Oller put forward a strong case for the global nature of the cloze. By testing students at different proficiency levels, they were able to use the proficiency factor to explain that any lack of influence by discourse constraints is a result of the students, not the cloze procedure itself. They found that the more proficient the ESL students were (as determined by their grade levels) the higher were their cloze scores. This observation will be pursued later as it has some bearing on the nature of the present research paper.

If Chihara and Oller were correct, then the color-coded cloze procedure should be able to increase the students' proficiency as indicated by a) improved cloze scores and by b) more correct fillers, fillers of the kind which depend on clues from other sentences beyond that of the cloze blank. The increased proficiency should come as a result of the assistance given by the color-coded parts of speech. The color-coding should be able to make the students more aware of the parts of speech both at the intra-sentential and inter-sentential levels. The parts of speech in turn should provide clues and constraints as to the required blank fillers. For example, a blank requiring a noun to fill it as indicated by a "blue" line, would indicate to the students that they ought to look through the passage for

"blue" words, i.e. nouns and pronouns. Because in at least half the instances in the present research's passages, the matching filler (the same-word as the deleted word) is located somewhere in the text, usually inter-sententially, students stand a good chance of taking advantage of the color-coded parts of speech and blanks to easily find the matching fillers. Such discoveries would improve students' cloze scores. The ability to find matching fillers, at first through the use of color-coded parts of speech, and finally through the use of non-colored parts of speech, is what was being explicitly tested in this research project. An analysis of the cloze test scores (calculated using both the exact-word and the acceptable-word scoring methods) also might show whether or not students could be trained to use color-coded and non-colored parts of speech to find fillers which were graphically different to any of the words in the passage. The clues necessary to locate these kind of fillers are shown in Table 3 at the end of Chapter 2. The table outlines the various types of cohesion in passages.

1979: Yamada

Chihara and Oller's findings, however, were to be challenged by Shanahan and Kamil, among others, including Jun Yamada in 1979. Yamada built on:

a) the work of Carver (1975 - 1976), who "stated that sentence order would probably have little effect on cloze scores (p. 70);

b) Chihara, Oller et al, who compared scrambled to unscrambled cloze; and

c) Halliday and Hasan who had developed a "theory of inter-sentential cohesion" in 1976.

Yamada tested the hypothesis that the location of cohesive clues, either within or beyond the sentence of the blank, must cause differences in cloze scores.

Yamada's findings agreed with those of Chihara's and Oller's that scrambling the sentence order does make the cloze significantly more difficult but he continued that:

> cloze scores are highly correlated with discrete-point grammatical test scores (due to the nature of the cohesion in the discourse). (p. 76).

Yamada suggested that most of the time the sequential cloze procedure tests "the subjects' intra-sentential (within-sentence) ability" (p. 76) as opposed to "the subjects' inter-sentential (between-sentence) ability" (p. 76) because the number of intra-sentential cohesive items is far greater than the number of inter-sentential cohesive items. Thus to all intents and purposes the students were encouraged by the nature of the cohesion in the passages themselves to look

for cohesive clues primarily in the sentence of the blank for both the scrambled and unscrambled cloze tests just the same as they would in a discrete-point grammar test.

Yamada thus concluded that:

> a cloze test is primarily a discrete grammar test rather than an integrative reading comprehension test. (p. 76)

To restate the point in a slightly different way, it should be noted here also that Yamada, unlike Chihara et al, found that the primary factor in the debate was the nature of the cohesion, i.e. on the availability of cohesive ties in the passage. The primary factor, he thus believed, was not the proficiency of the students. This point, like the opposite made by Chihara and Oller, had a bearing on the design of the present research. On one hand, Chihara and Oller's ideas led me to examine the nature of students as they have related to the cloze procedure, i.e in terms of proficiency level. On the other hand, Yamada's comments were instrumental in the analysis and subsequent selection of cloze passages in terms of availability of matching fillers to put in the cloze blanks.

1980: Thomas

Susan Thomas' research, like Yamada's, put the onus of cloze results on the cloze itself rather than on the students. But instead of looking at cohesion within and between sentences, she looked at content and function words

and their predictability in lesser and greater amounts of context. She restated that function words are easier than content words to predict, but she found that:

> greater context facilitates cloze inferences for content words but inhibits cloze inferences for function words. (p. 52)

She carefully explained this by saying that:

> global predictions involve(d) general and more long range estimations of what is coming next in a reading passage....In contrast, focal predictions arise out of specific events, deal with more local anticipations, and are dispensed with more quickly...(and) a larger context actually inhibits the correct prediction of function words...(as) the reader may not be particularly attentive to (nearby surrounding) clues because of other redundant clues in the remaining context...Therefore, the availability of a large amount of contextual information may simply provide more alternative clues than are necessary...This kind of 'information overload' is forced upon the reader and inhibits...exact function word predictions. (p. 52 - 53)

Given the above ideas, Thomas was able to explain a possible reason why students tend to use such local clues (constraints) in order to guess what words should be put in the blanks. The cause can likely be discovered in easy materials which by their very nature contain relatively more

function words than more difficult materials do. Thomas supposed that:

> the greater the proportion of function words in a given message, the smaller the influence of greater context for the test as a whole should be. (p. 53)

Thomas presented for further study a subsequent hypothesis to test her belief in the global side of the debate. She hypothesized that:

> the use of materials with more difficult readability levels and/or the restriction of deletions to content words will expand the boundaries of contextual constraints operating in cloze tests. (p. 53)

Thomas' (1980) description of the tug of war between the proponents of content and function words plus her subsequent hypothesis called for a solution for which the color-coded cloze (CCC) procedure seemed to fit. The CCC seemed appropriate because it distinguishes (most of) the parts of speech from each other (blue = nouns and pronouns, red = verbs, green = adjectives, purple = adverbs, black = conjunctions, prepositions, interjections, and "wh" words) and highlights the content words (blue, red, green, and purple) as opposed to the function words (black). At the same time the color-coded cloze procedure still apparently

allowed for the benefits of the random every nth word deletion pattern.

In terms of difficulty of passages, the present research pilot passages were identified at an intermediate level at two ESL schools and the type of vocabulary, structures, and length of sentences follow the curriculums of those levels at those schools. An IBM computer program called "Readability Calculations, Version 1.00" used for rating readability, calculated the readability levels of the selected passages in the pilot study as being as low as grade six and as high as grade eight on the Flesch scale and between grade six and nine on the Fry graph. A trial at one school in a mid-intermediate class with the easiest passage using the traditional cloze format showed that the passages were not too easy nor too difficult and were able to distinguish the different language proficiencies of the students. The above data about the passages used in this research plus conversations with teachers having used cloze tests with students pointed to the need to find ESL students who were as proficient as possible. This meant that the students should be studying at as high a grade level as possible. Due to the number of students needed and the availability of such numbers, the upper-intermediate level was agreed upon for the pilot cloze passages. Although it would have been preferred if the students were at a higher proficiency level for the selected cloze passages, Thomas' hypothesis calling for more difficult readability levels to

expand the boundaries of contextual constraints, presumably gave support to the selection of the particular proficiency levels of the students in the pilot project. Her hypothesis also seemed to give credence to the use of even more difficult passages with the university level students in the Ritsumeikan Program. Due to the requirements of the university program the selection of the cloze passages was limited to two of the texts used in the regular program. Passages were thus chosen from the easier of the university level texts in which the sentences still tended to be complex with many technical terms. The seeming advantage of these passages was that many key semantic terms and several function words were repeated once or more. This highly re-iterative nature of the words in the passages, especially for inter-sentential clues, in the main project (60% - 80% intra- and inter-sentential re-iterative clues, and 44% - 62% for inter-sentential clues) appeared to bode well for students finding intra- and inter-sentential re-iterative words to fill the cloze blanks.

1982: Shanahan and Kamil

In 1982 Shanahan and Kamil used intact/cloze/ sequential/scrambled passages and "confirm(ed) earlier findings that the cloze test is insensitive to the integration of information across sentence boundaries" (p.

207). However, they made some concession to their opponents in the global/discrete debate but qualified this as follows:

> It is not that students fail to integrate information across sentence boundaries when completing a cloze exercise, but only that the information does not aid in the sentence completion activity. (p. 207)

In 1983 Shanahan and Kamil explained their justification further in that:

> subjects perform no better on typical random nth word deletion cloze tests than they do on the same tests in which the sentences have been placed in random order. (p. 123)

1982: Bridge & Winograd

Bridge and Winograd in 1982, using verbal (think-aloud) protocols from ninth graders (both good and poor), found that students did use inter-sentential clues but the amount of use depended on the ability of the readers and on the type of cohesive ties. They found that conjunctive and referential items were more likely to be determined by the use of inter-sentential clues. Lexical items were determined by the use of intra-sentential clues. Based on the result that good readers used within-sentence clues 54% of the time while poor readers 38% of the time, Bridge and

Winograd believed that deleted lexical items could be discerned from within-sentence clues. Furthermore, believing that most ties in language are lexical ones, and thus also occur in the traditional every fifth word deletion cloze procedure, Bridge and Winograd concluded that the tendency is toward using intra-sentential clues. Their subsequent solution was to use cloze passages "in which the researcher selectively deleted items which require the integration of information across sentences" (p. 310).

The significance of the contribution of Bridge and Winograd's research to the present research paper is that it explained how the nature of the passage controls the way in which students try to find the solutions to the cloze blanks. It also explained in what direction, i.e. toward the intra-sentential clues -- the lexical items, and somewhat towards the inter-sentential clues -- the referential and causative items. By setting out the types of cohesive ties[1] Bridge and Winograd prompted in the present research paper the analysis of a number of passages to find the distribution of ties and subsequent selection of the passages with the blanks which had their replacements somewhere in the text. (The details of this and other text analyses will be presented in Chapter Three.) The present analysis chose to find same-word and same-root re-iterative ties[2], i.e. lexical and syntactic clues, as they seemed to be the ones most easily found, once highlighted, in order to be used to fill in the cloze blanks. Other types of

lexical, referential, and conjunctive ties were not analyzed for passage selection purposes, but in the main treatment they were color-coded and anticipated to be even more evident than Bridge and Winograd found them to be. It should be pointed out again here that in the analysis of same-word and same-root re-iterative clues in the pilot passages and the main passages, the number of deleted items appeared at least once elsewhere in the text as high as 64% and as low as 52% of the time and 80% and 60%, respectively. (This means that if students were using the color-coded clues, most of them beyond the sentence of the blank, to find the appropriate re-iterative items, the color-coded scores were expected to show as much as a similar proportion of improvement over the control (non-color-coded traditional) cloze test. Any other improvement would have to have come from the influence of color-coding on the other types of clues.

Because of Bridge and Winograd's suggestion about using a rational (non-random) deletion cloze, for each of the chosen passages an attempt was made to increase the number of blanks with re-iterative clues by deleting a different set of words. However, for the pilot passages, as the increase was not very great, and due to the large number of treatments already and the limited number of students available, it was left for the main experiment. It should also be noted that it is beyond the constraints of this research to have included an analysis of all the types of

cohesion mentioned by both Halliday & Hasan, and Bridge & Winograd.

1983: Leys

The following year (1983) Leys et al replicated Shanahan & Kamil's 1982 study using junior high school students instead of adults. The Leys study asked three questions:

> 1. Does prior knowledge of the passage topic aid cloze performance?
>
> 2. Does the sequential as opposed to the random ordering of passage sentences aid cloze performance?
>
> 3. Does sequential context as opposed to random or no context aid performance on a target cloze sentence? (p. 112)

Ley's answer to each question was, "No", and therefore, she seemed to confirm...

> Shanahan and Kamil's (1982) findings...(that) the traditional cloze format (i.e., every fifth word deleted and exact replacement criteria) does not appear to be sensitive to the integration of information across sentence boundaries. (p. 113)

To explain the results, Ley drew on the idea of Weaver and Kingston (1983) that the traditional cloze procedure tends to measure the language skill of readers (rather than their understanding of the passage).

The first contribution of Shanahan et al and Leys' research to the present research paper was the pressure to take another, but closer look, at the discrete (intra-sentential) versus the global (inter-sentential) question. The second was the pressure to look again at the scrambled cloze method. Thus, a subsequent study is needed, based on the present research paper, in which two secondary treatments could be given, one using a scrambled cloze method with color-coding and the other using the same sentence method without color-coding. The scores on both of these methods could be compared with scores on the colored- and uncolored-unscrambled forms of the passages. Whereas Shanahan et al and Leys did not find higher scores for unscrambled passages over scrambled ones, and whereas it was thus interpreted that students were only using within-sentence clues in both varieties, it can be hypothesized that if there are higher scores for the CCC for the unscrambled treatment when compared to the other three treatments, then this would show that there is indeed some influence of the color-coding on the students to look for inter-sentential clues to fill in the cloze blanks.

1983: Shanahan and Kamil

In 1983 Shanahan and Kamil took a retrospective look at their earlier study in light of the findings of Bridge and Winograd (1982) and Rankin (1982) about the global nature and the high level of comprehension of the

cloze procedure, respectively. Shanahan and Kamil had to agree with their opponents that students did use inter-sentential information in cloze tests, but would not accept the criticism about their own lack of proper attention to inter-sentential cohesive clues (Bridge and Winograd, p. 310). Through argument and research, however, Shanahan and Kamil tried to show that the students' use of global information was only minimal (infrequent) and trivial (processed at a low level).

First, Shanahan and Kamil pointed out Bridge and Winograd's admission that students used inter-sentential information minimally to effect cloze scores. Second, they applied Rankin's ideas of literal recall to their previous scrambled cloze experiment to test what was happening inter-sententially. Their experiment was meant to address Bridge and Winograd's call to make use of inter-sentential clues and refute Rankin's idea that "cloze tests measure high order comprehension processes, such as inferencing, to the exclusion of lower level processes, such as literal recall" (Shanahan et al. 1983, p. 123). Shanahan and Kamil focussed on the level of importance and quantity of ideas recalled in both a) unscrambled intact passages versus unscrambled cloze passages and b) scrambled cloze passages versus unscrambled cloze passages.

Their new study showed that students were able to better recall ideas, more of them, and in order with the unscrambled cloze just as with the unscrambled intact

passage. This suggested to Shanahan and Kamil that students do "integrate information across sentences when completing cloze exercises" (p. 127). However, because scrambled and unscrambled cloze scores were similar rather than different, they concluded that inferencing can take place unrelated to or despite the cloze procedure. Thus it can be said that Shanahan and Kamil had shown the inverse to what Rankin had said about inferencing and literal recall as these high and low order comprehension processes pertain to the cloze procedure. Shanahan and Kamil concluded that inter-sentential inferencing took place unrelated to or despite the cloze procedure and consequently that cloze was a lower order process.

1984: Shanahan and Kamil

The following year Shanahan and Kamil continued to try to challenge their critics by doing an archival study on Bormuth's data of 1962. They re-analyzed the data to determine "the number of comprehension test items requiring within- and across-sentence information" (p. 254). They concluded that:

> (the cloze procedure) predicts performance best in those situations in which within-sentence comprehension dominates. Cloze is less useful in situations in which students are expected to integrate information across sentence boundaries. (p. 255)

Although Shanahan and Kamil showed the lower order nature of the cloze procedure in their 1983 and 1984 research, they did not really answer the criticism of Bridge and Winograd. Shanahan should have looked at the lexical and other cohesive items to respond properly to the challenge. Thus it was the goal of the present research study to look at cohesive items as clues to filling the cloze blanks, especially those that occurred inter-sententially.

For reasons of ease with color-coding, the focus was on same-word re-iterative clues. The researcher included re-iteration of both lexical and syntactic words. It should be noted that this was different from Bridge and Winograd who suggested the opposing influences of a) conjunctive and referential items and b) lexical items, the latter favoring higher intra-sentential scores. The present research divided the lexical items into i) the collocative, such as the "United States" where one word usually is located beside another one, and ii) the same-word re-iterative-word items. It is obvious that collocative words are intra-sentential and it was found by careful analysis of the passages used in the present research that most of the same-word re-iterative items were inter-sentential. Furthermore, it must be added here that it was beyond the scope of the present research to consider comprehension directly. Therefore, Shanahan and Kamil's conclusion about the lower order of the cloze could not be debated but left for future research. However, even

having such a debate rested on whether or not students could get beyond the first step of learning to look beyond the sentence of the cloze blank for clues to find the filler. That step itself depended on the inter-sentential clues being available.

1985: Henk

Henk joined the inter/intra-sentential debate with a bias toward the within-sentence side of the debate. He agreed with Shanahan et al that:

> readers use local redundancy when answering cloze items and tend to neglect inter-sentence cues and prior knowledge as sources of information. If, indeed, cloze tests fail to tap the multifaceted nature of text processing, their usefulness as measures of reading comprehension ability becomes seriously limited. (p. 213)

Like Bridge and Winograd, Henk used think-aloud protocols with the standard (traditional) cloze and found that subjects used five types of passage cues:

1) within-sentence cues only,
2) beyond sentence but within text,
3) combinations within and beyond sentence in text,
4) prior knowledge/beyond text,
5) combinations within and beyond text. (Henk p. 215)

However, he found that for the most part students used intra-sentential cues. He did find the use of inter-sentential clues, but very infrequently and thus concluded that cloze procedure was not "a dynamic and sensitive measure of reading comprehension" (p. 217).

Yet Henk did leave the door open for more research in the present debate. Admitting that inter-sentential searching for clues for some content word deletions is necessary, he emphatically suggested:

> examining various contextual factors about deletions such as position in sentence, linguistic function and supporting syntactic and semantic context, cohesive importance and relevance to other text elements. (p. 217)

In other words, Henk proposed the idea that perhaps the motivating force for students to cross sentence boundaries was dependent on the nature of the passage, as well as on the passage's readers. This idea is important for the present research because it is another reason for analyzing the passages for cohesive clues. Certainly it would be a waste of time and energy to color-code a passage hoping to lead the students to cohesive clues that did not exist.

1985: Bachman

Bachman, like Henk, reviewed proponents of both sides of the inter/intra-sentential debate, but rather than take a stand on one side of the other, he tried to explain the inconsistencies in results as partly caused by deleting words in the fixed ratio (every-fifth-word deletion) manner.

Thus Bachman proposed to compare this fixed-ratio (random) selection of words with a rational selection. For the rational selection he tried to develop criteria according to Halliday and Hasan's framework. These included:

> 1) syntactic, which depended only on clause-level content,
> 2) cohesive, which depended on intercausal (intra-sentential) and inter-sentential cohesive content, as described by Halliday and Hasan (1976); and
> 3) strategic, which depended on 'long-range patterns of parallel patterns (coherence). (p. 63)

However, despite no problems with the rational deletion procedure, Bachman found the identification process was impractical for teachers and test writers, thus counteracting the desirable ease of construction of the standard cloze.

To solve this problem Bachman designed his research using the following two forms. For the first form he deleted words rationally and classified them into the following four context levels:

> 1) within clause;
> 2) across clause, within sentence;
> 3) across sentences, within text; and
> 4) extra textual...(where type 2 and 4 deletions were maximized). (p. 539)

For the second form he deleted every 11th word, then described them in terms of the above levels. For both forms answer keys were made which included exact words and acceptable alternatives.

Bachman's results for his rational cloze tests showed that:

> a) test developers, using the above four levels, were appreciably consistent in identifying deletions,
> b) his criteria were practical for teachers,
> c) (scores) were comparable in both in reliability and concurrent validity to those on the fixed-ratio test (p. 549),
> d) difficulty of closure increase(d) as the amount of context required for closure increased (p. 549),
> e) the development and use of an answer key make scoring entirely objective and greatly increase scoring efficiency (p. 550),
> f) the use of a rational deletion procedure allows the test developer much greater flexibility in revising specific items on the basis of both the content specification of the test and the item statistics. (p. 550)

Although Bachman did not, in fact, solve the intra/inter-sentential debate, he set the stage for the next attempt to determine whether students could be trained to

find clues beyond the sentence of the cloze blanks. One would expect that next step to be a rational cloze where the text was deleted to maximize the number of inter-sentential clues. At first it was thought for the present research paper it would be better to investigate the color-coded cloze procedure with the traditional every-nth-word deletion first in order to set a baseline for further research with a rational deletion pattern. However, due to the decidedly difficult task of locating enough suitable ESL students, it was decided after the pilot project to move right away to a rational form of the color-coded cloze where as many re-iterative clues as possible were used for deletions. This decision was made to take advantage of the suspected advantage that an increase of re-iterative clues could bring.

Bachman's influence on the present research design was significant and resulted in two contributions. The first contribution was the idea of content levels. It resulted in an attempt to identify various locations of the same-word and same-root re-iterative clues and their distance from the blank. The second contribution was the inclusion of an answer key which included exact words and acceptable alternatives. It inspired a two-style answer key, the difference being that the present research key was to use weighted scores for acceptable responses. (An explanation of the weighting formula is to be given in more detail in Chapter Three).

Bachman's contributions were significant and the present project was over ambitious in trying to incorporate many of them. The modified weighted scoring scheme which had been proposed for the pilot project, was suspected of being biased, tried and found to be too time-consuming, and dropped during the pilot project in favor of a simplified method which was discovered unintentionally during the scoring process. The revised scoring methodology will be described in Chapter Four. Simplified along with and partially because of the revised scoring methodology was the location of clues indicating what word should fill each of the cloze blanks. The exact location of each clue to the cloze blank was noted in preparation of the pilot and main projects' cloze passages but not considered quantitatively to any great degree. This kind of information could be considered in future projects, but for the present research the essential details were whether the words needed to fill the cloze blanks were located a) outside of the passage, b) within the sentence of the cloze blank, or c) somewhere in the passage beyond the sentence of the cloze blank.

As a result of the ongoing discrete-versus-global debate as participated in by Chavez and Oller, Yamada, Thomas, Shanahan and Kamil, Leys, Bridge and Winograd, Henk, and Bachman, the stage was set for the present CCC project. The key question which emerged dealt with a) the availability of clues for students to be able to find in

order to fill the cloze blanks and b) how much the students were paying attention to the inter-sentential clues.

What is the nature of non-native speakers of English?

In the review of the literature so far, the focus has been primarily on the nature of the cloze itself and only somewhat on the nature of the students but enough to indicate the need for a closer look at that nature. Following, then, is what various researchers have said about students and how they interact with the cloze procedure.

Some of the problems with the cloze have something to do with the students themselves and their orientation toward the cloze procedure. Looking at the research literature the following problems have been identified:

a) non-linguistic interference (Streiff),

b) reluctance to guess (Brutten and Tuinman),

c) inattention to redundancy, and shorter memory span (Kalivoda),

d) lack of knowledge of rules of grammar and redundancy (Aitken),

e) and reading ability of poor students compared to good students (Goodman, Neville & Pugh, Propst, and Schwartz & Stanovich).

Streiff, talking about children doing cloze tests, said that extra-lingual concerns, such as uncertainty about the task, lack of attention, momentary forgetfulness, not just lack of competence in their English prevents a child from

filling some cloze blanks. It is conceivable that under the stress of the cloze test, some of the above problems could apply to adults. Talking about non-native speakers, Brutten (1981) mentioned that some ESL students are reluctant to use context clues to guess because of their limited vocabulary and resultant insecurity. Tuinman (1972) pointed out that the students in his study seemed to make only one attempt on 75% of the cloze blanks, despite the type of deletions. Kalivoda (1980) talked about students "disregarding redundancy" (p. 2) and that a student's "memory span is shorter in a second language" (p. 3). Aitken (1977) argued that the amount of redundancy has little effect "if the receiver (student) does not know the structure (of the language)" (p. 65).

Looking at the differences between good and poor readers and drawing on the ideas of Goodman (1970) as well as research of Neville and Pugh (1976 - 1977), Propst and Baldauf (1981) pointed out that one difference between good and poor readers is that of editing, i.e. looking back and forth through the passage as they read. Goodman (1970) argued that good readers use context clues optimally. Neville and Pugh (1976 - 1977) found that poor readers only used context clues occurring before the blank as opposed to before and after by good readers. Schwartz and Stanovich (1981) stressed that poor readers tried to find clues but got entangled in the details of a passage. Yet, Bridge and Winograd found that poor readers were able to orally explain

cohesive relationships, especially for referential and lexical examples, though to a limited extent conjunctive ones. Meanwhile, Bridge and Winograd found that good readers were able to explain all the types of cohesive relationships. Likewise, Henk (1985) in his students' verbal protocols did find the use of inter-sentential clues, but only to a very limited extent.

To summarize the literature on the nature of students and cloze procedure it appears that there is a contradiction in the research over the amount of use of redundant information. But looked at from a different angle it could be argued in the following way. Poor readers have the most difficulty, in that they do not try very hard to look for clues, especially inter-sentential ones, to help them fill in the blanks. Or, if they do, they get lost in the details of the text. Good readers apparently know more vocabulary and grammar rules and are able to extract the necessary information to be able to see the whole picture more clearly.

What is the possible role of color in the improvement of non-natives' cloze reading scores?

A solution to the poor readers' problem of becoming bogged down in reading a passage seemed to be to help them to find the appropriate amount of use of the context. This was Gattegno's solution to teaching phonics, by grouping the sound-spellings into color-coded groups of similar sounds,

helping the students analyze (discriminate) and synthesize (categorize) or vice versa at the same time, depending on whether they were reading a sound-grapheme chart or reading a story. What Gattegno did at the sound-grapheme level, the color-coded cloze tries to do at the morpheme and sentence level with the parts of speech. The purpose of color-coding is to help the students focus on particular part of speech details (analysis), thus eliminating some extraneous information, while helping them to relate other clues to the isolated detail (synthesis) to find the appropriate fillers.

To explain further, color-coding should counteract students' reluctance to get involved in a search for clues by a) making the parts of speech more readily evident to the students and by b) making it easier to pay attention to redundancy. But color-coding should also make the search more focussed on relevant redundant (part-of-speech) information, reduce the memory load, waste less time and leave more time for more attempts to find the appropriate clues involved in the cohesion of the passage. In addition, color-coding should make the syntactic (grammatical) relationships of individual sentences easier to see and use in the search. Both poor and good readers should gain an advantage from color-coding, although there could be a ceiling effect for the really good readers. Furthermore there is no good reason foreseen why good readers should get

confused by the increased information, nor why the poor readers should either.

Intrinsically, color is usually more attractive than black and white. Color is more motivating, too. However, this research experiment is not primarily interested in color for its own sake. It is interested in color as a means to guiding students to an awareness of the parts of speech in the text which in turn may point toward the words to fill the blanks. In other words, the present research needs more than motivation to help improve the students' scores on the cloze tests. To determine the effect of color alone as compared to the effect of color plus the teaching point, the researcher provided a control where the passages were randomly colored rather than according to the systematic form of the treatment passages. It was proposed at the beginning of the present research project that if the colored-treatment forms both result in higher mean scores than the standard-cloze control form, then it could be said that color is a motivating factor. Furthermore, if the mean scores for the color-coding are higher than for the randomly-colored forms, this would suggest that the color-coding has a positive effect. This is to say that the students are making use of the intended assistance of the color-coded parts of speech. Furthermore, if the mean scores of the randomly-colored forms are lower than those of the standard-cloze control group and even lower than those of the color-coded treatments, it could be said that the

random colors are motivating the students to use them but this very use of wrong information is having a negative effect. Such a situation would indicate the positive value of color-coding the parts of speech.

What are the contributions of the key areas of investigations to the present research?

From Carroll, through Halliday and Hasan, Chihara and Oller, Shanahan and Kamil, Leys, Yamada, Thomas, Bridge and Winograd, Henk, to Bachman the debate over the global/discrete debate raged. Yet no extreme position resulted nor was a satisfactory solution forthcoming but suggestions were made to get closer to the answer. Streiff, Brutten, Tuinman, Kalivoda, Aitken, Goodman, Propst, Neville and Pugh, and Schwartz and Stanovich had all put forth ideas about the nature of students and their reactions to cloze procedure. The present research had its roots in the global/discrete debate and experiments and the present research methodology evolved from these efforts, selecting and recombining various strategies of the above researchers, leaving some of the other strategies for future experiments. In Chapter Three the bits and pieces of the methodological strategy accompanying the contributions of the researchers above will be combined into a description of the research design.

RESULTS OF THE REVIEW OF THE LITERATURE

Introduction

The research design in this paper came largely as a result of a review of the literature on cloze procedure. This design suggested and tested a method of helping students to use cohesive cues that were located beyond the immediate sentence of the cloze blank.

Overview of the method proposed in relation to the literature

The goals of the present cloze research

The original goals were the following but because of negative results in the pilot project and because there were so few students to draw on the third goal below was omitted in the main project. The goals were:

1) to train students using the color-coded cloze method to be aware of inter-sentential as well as intra-sentential clues toward the point where they no longer need color-coding to help them in the use of part of speech clues,
2) to compare the major treatment group which had practised with several color-coded cloze passages to a

control group which had practised the same number of uncolored cloze passages to determine if color-coding helped students to look beyond the sentence of the blank,

3) to compare the major treatment group to a control group which used passages with only the cloze blanks colored, to determine whether the students were using the color-coding of the blanks alone to find clues or whether they were using the beyond-sentence color-coded words as clues,

4) to compare the major treatment group to a control group which had practised in the same way except that the words in the passages were colored randomly. This was to determine whether or not students were just being motivated by the colored words to try harder in the test rather than being motivated to take advantage of the instructional information provided by the color-coding.

The use of previous research

Many of the experiments found in the review of the literature used the standard cloze and then made a modification to it which was then tested. For the pilot part of the present experiment the standard cloze was used but replaced by a rationalized cloze in the main part. Both

the pilot and the main projects then modified the passages in no other way except by coloring the parts of speech. The pilot project used three modifications and the main project only two, the main project dropping the use of number 2 below. The control and the modifications were as follows:

1) In order to determine a base line to test for any improvement in scores as a result of using the all-color-coded cloze, the standard cloze form, without any color-coding, was used.
2) In order to determine if color-coded blanks alone (not together with the color-coded words) was sufficient for students to find inter- as well as intra-sentential clues, only the blanks were color-coded.
3) In order to determine if color and not the color-coding was effecting the scores of the students, all the words and blanks were colored randomly to make sure the colors had no connection to grammatical meaning.
4) In order to help students find clues beyond the sentence level, all the words and blanks of the standard cloze were color-coded.

Implications of Review of Literature for the Present Research Paper

In summarizing the research on cloze it can be seen that there were two goals of importance to this research paper. The first goal was to improve cloze scores; the second to see if students could extend their use of context clues beyond the sentence to help determine blank fillers. The more recent studies seemed to look down on the first goal as just improving lower reading comprehension grammar skills. It was expressed that, although the cloze has some educational value, it does not have as much as other procedures to help students in discourse comprehension inferencing, i.e. higher level reading comprehension skills. However, given what Goodman and Tuinman said about readers using the least amount of effort to determine cloze blank fillers, it appeared to me that clues at the sentence level, such as blank length and initial letters of deleted words could short circuit the students' need to look beyond the sentence for clues. The same could be true for the use of color-coded blanks. If indeed this short circuiting did take place, then it could be argued that the weakness in the cloze procedure was due to the short circuiting itself rather than to the students' inability to look beyond the sentence level. When there is no need to look for inter-

sentential clues because intra-sentential clues are readily available, why should anyone waste time searching for inter-sentential ones? Sometimes, as was shown in an analysis of the passages for this research project, many clues as to the appropriate cloze blank fillers, are to be found somewhere in the text beyond the sentence of the cloze blank but not within the boundaries of the same sentence of the blank. This appeared to be a good environment to test to determine whether or not students would be able to locate the inter-sentential clues, especially the same-word or same-root re-iterative ones.

It was the goal of this research project to discover whether or not the procedure of color-coding all the parts of speech and all the cloze blanks in a passage could provide the necessary stimulus and pathway for students to make the effort to look beyond the sentence of the cloze blanks to find the appropriate blank fillers. I thought that such an effort could lead to higher cloze scores and decrease the strength of the researchers opposed to the traditional cloze procedure.

In the present research the goal was to improve the students' cloze scores using the color-coded cloze procedure. The intention of the present paper was to determine if color-coding, in fact, can help students to increase their use of inter-sentential clues using the color-coded standard cloze. Note that same-word and same-root re-iterative type clues were identified in the analysis

of the research passages, but other cohesive clues may have assisted the students.

The review of the cloze literature suggested strongly that it is important to know the nature of the cloze passage and how much effect the passage has on the cloze scores. If reading by ESL students tends to be too localized the question to be answered is whether increasing the number of inter-sentential (re-iterative) clues can increase the scores. Obviously, if there are more local clues than distant clues, then there is a strong bias toward using intra-sentential clues. Therefore, the effect of the latter must be neutralized. In a rational cloze, words can be deleted to increase the number of distant clues and decrease the number of local clues. However, in a standard cloze, it appears to be the proportion of local to distant clues is a matter of chance. To circumvent this problem, cloze passages can be and, in fact, were analyzed for location and proportion of within sentence clues to beyond sentence clues and the most favorable passages were retained. For the pilot project only exact answers were accepted. Instead of using the complex weighted scoring as suggested earlier in this paper, in addition to the scores out of 50 blanks, re-iterative inter-sentential blank types were tallied. For the major project, these two types plus the intra- and inter-sentential type were used. These procedures will be explained in Chapter Three when the research design is described and the scores given in Chapter Four.

Research Question 1

From questions arising out of the literature review, the overall question for this research paper would be subdivided as follows.

1) Does color-coded cloze lead students to look beyond the immediate sentence for clues to be able to fill in the cloze blanks? In other words, are mean scores higher on passages which are completely color-coded than on passages which have less color, random color, and no color at all?

2) Are the students' mean scores on completely-color-coded passages lower than those mean scores of students who do the standard cloze passages?

Hypothesis 1

Out of these questions the following hypothesis for this paper was put forward:

1h) On the practice tests there will be no significant difference between the treatment group which has trained using the color-code cloze and the control groups which have trained on either the non-colored colored-cloze, the colored-blanks only, or the randomly-colored cloze practice tests.

Research Question 2

3) Can students transfer any acquired skill learned from their practice with color-coding as it pertains to using inter-sentential and intra-sentential clues, to the solving of uncolored rational cloze passages?

Hypothesis 2

2h) On the post-test there will be no significant difference between the treatment group which has trained using the color-coded cloze and the control groups which have trained on either the non-colored colored-cloze, the colored-blanks only, or the randomly-colored cloze practice tests.

Research Question 3

3) Does the color-coded cloze give students more confidence in filling cloze blanks than the other forms of the cloze?

Hypothesis 3

3h) On the post-test there will be no significant difference on confidence scores between the treatment group which has trained using the color-code cloze and the control groups.

Research Question 4

3) Does the color-coded cloze lead to more productive confidence in filling cloze blanks than the other forms of the cloze?

Hypothesis 3

3h) On the post-test there will be no significant difference in productive confidence scores between the treatment group which has trained using the color-code cloze and the control groups.

Footnote 1: Same-word re-iterative clues were chosen for analysis and subsequent choice of the passages because those clues were the most obvious. They fit into the color-coded cloze procedure because they are the same part of speech as the corresponding blank. According to Bridge and Winograd, re-iterative clues fall into the lexical category and the category of clue which they said lead to intra-sentential searches rather than beyond. However, in the analysis of the passages for the present research, by far most of the time the same-word re-iterative clues were either before or sometimes even after the sentence of the blank rather than being within. All other factors being equal, one would expect the students, given the color-coding, to look beyond the sentence.

Footnote 2 It may be that the color-coded cloze helps improve conjunctive relationships in as much as the color-coding makes them stand out. For a definition of conjunctive and other types of cohesion, please see Table 3 below. It is an adaptation and extension of ideas presented by Halliday and Hasan (1976) and quoted by Bridge and Winograd (1982).

TABLE 3
VARIOUS KINDS OF COHESION

COHESION			
TYPES	KINDS	SUBKINDS/ DEFINITIONS	EXAMPLES
References	personal	pronouns, possessive adj	I, you My, your
	demonstrative	adjectives	this, that
	comparative	adjectives adverbs	bigger faster
Lexical	re-iteration	same words synonyms superordinates general words that refer to	car/car house/home pear/fruit home/ dwelling
	collocation	words that occur together	United States
Conjunctive	additive adversative causal	logical relationships relationships	and yet so
Ellipsis		word in parallel structure which is left out to prevent unwanted repetition	He has a house, car, and boat.

Adapted from information cited by Bridge and Winograd (1982) and belonging to Halliday and Hasan (1976).

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

INTRODUCTION

Based on a review of the literature concerning the cloze procedure and the use of color-coding, the present research project involved training adult upper-intermediate and university level English as a Second Language (ESL) students. The research design was a blending of customary and unique ways of training and testing with the cloze procedure. The purpose of the design was to discover if students could increase their purview of the text and make use of inter-sentential clues available to them in order to give them a more precise understanding of a whole passage (elsewhere referred to as a piece of discourse).

The first innovation was the combination of the traditional cloze procedure and the coloring, and more importantly, the color-coding of the parts of speech in a piece of discourse of approximately 300 words in the pilot study and 330 in the main project. The purpose was to determine whether or not systematically highlighting the parts of speech with color could lead to the greater use of grammatical and semantical clues across sentence boundaries to locate the correct fillers for the cloze blanks. In the present research the principal focus was on the same-word and same-root re-iterative clues, as they are explicit in

the text and thus are the most objectively assessed. Any improvement by the students would have been shown by their higher cloze scores on the post-treatment cloze test as compared to their pre-treatment (same) cloze test and as compared to the scores of control groups who had practised with a randomly colored cloze or a non-colored traditional (in the pilot project) or non-colored rational cloze (in the main project).

Being used along with the above training methods were two scoring methods. Both were used after the answers had been inserted into a spreadsheet. The first method was the traditional exact-word method where only the replacement of the original word received credit. This method was used for both the pilot and the main projects. In this method all 50 blanks were considered and scored. The second method was intended to be a more sensitive measure and give more credit to the students answers where at least partial credit was due. But the second method was intended to do more than the traditional acceptable-word scoring method in that it was to indicate also the kind of clues the students had used to find the cloze blank fillers. Of primary importance were the inter-sentential re-iterative-word clues. For the pilot project this concern was manifested by the weighted-score method which looked good at first glance but was far too time consuming and subjective. In scoring the practice test for the pilot project the researcher discovered an alternative way to focus on inter-sentential clues. It was

much more efficient to label each answer on the spreadsheet as being either of the external type, the inter-sentential type, or the intra-sentential type, to assign each cell on the spreadsheet a "1" for a right answer, a half point for an acceptable answer, or a "0" if the answer was unrelated to the deleted word and then to delete the columns containing external type blanks and intra-sentential type blanks. Table 16 at the end of Chapter Three illustrates this scoring procedure.

This revised method, an innovation in cloze research, was used for the main project. It took advantage of the ease of deleting columns on the spreadsheet, i.e. columns containing external word fillers, and columns containing intra-sentential word fillers. As each blank had a column and a cell for each student's answer with a score already given by the first method, it was easy to delete the unwanted columns and automatically get the total score for each of the columns and rows plus the overall totals for the rows and columns. The advantage of this method over the weighted-scores method was that with this method it was easier to give exact-word points, delete columns, and make graphs to show the scores given to inter-sentential blank types, all in an unbiased, straightforward way. Fine tuning, that is to say giving points to acceptable-word answers, was done later. There was still the danger of biased scoring but the scoring was more transparent than the weighted scores could be. The only regret was that in

scoring no specific attention was paid to whether the correct acceptable-word answers violated inter-sentential restraints or not. This awareness of possible beyond-sentence constraints and their violation can be built into future projects. Because the key expected answers and the students' answers are on the spreadsheet the scorers will be able to check for violation of the sentence constraints and assign partial points if desired.

THE SUBJECTS

The subjects (mostly female) were students from four classes of male and female adult (ESL) students. The students represented a variety of nationalities (primarily from Pacific Rim countries, some from South America). The students in the pilot project class were enrolled at Columbia College in Burnaby, British Columbia. Their upper-intermediate program consisted of classroom work covering 14 weeks, five hours/day, five days/week. The students in the main project, all from one university in Japan, were from three classes in the Ritsumeikan University English Program at the University of British Columbia in Vancouver, B.C. These students, between the ages of 19 and 22 years old, were studying in an ESL program based on their fields of interest, often business and culture. All the students had done the TOEFL test and were short of the 550 which was the normal standard for foreign students studying at UBC. The

class profiles given in Table 4 below show how the students were divided for their UBC studies. For the present research the classes were each assigned one of three cloze formats. Class one was given the standard cloze, class two the randomly-colored cloze, and class three the color-coded cloze. Note that the assessments done by the Ritsumeikan staff in order to assign the students to their appropriate proficiency levels showed that Class 1 was the most proficient, Class 3 less proficient, and Class 2 the least proficient.

TABLE 4
CLASSIFICATION OF STUDENTS BY TOEFL AND THE LANGUAGE PROFICIENCY INDEX AS DETERMINED BY THE RITSUMEIKAN STAFF FOR PLACEMENT INTO THE RITSUMEIKAN PROGRAM

	TOEFL			LANG. PROFICIENCY INDEX		
		Range.....	Avg.		Range.....	Avg.
Class 1	53	(500 - 553)	527.80	.1	(1.9 - 2)	1.94
Class 3	34	(483 - 517)	505.75	1.0	(1.0 - 2)	1.80
Class 2	40	(483 - 523)	494.80	.5	(.5 - 1)	.86

THE TREATMENT AND CONTROL GROUPS

In the pilot project 18 students from the Columbia College ESL class were divided into basically four groups of four students. The selection of students for each group was based on the pre-test scores such that the mean of each group was the same on the pre-test. (Please refer to Figure 1 in Chapter 4.)

It should be noted here that the process of dividing the students into groups was changed from the intended plan due to the choice of some students not to participate in the study and due to the fact that the pre-test proved to be more difficult for the students than had been anticipated. It had been intended to divide the 20 students in the pilot class to be divided into four groups of five and to make sure there would be, as determined by the researcher ranking scores on the pre-test cloze, a strong member, a fairly strong member, an average member, somewhat weak member, and a weak member. The students were to have fallen basically into three groups. The strong group was to be defined as getting a score of at the independent reading level (43% and above). The average group was to be defined as getting a score at the instructional reading level (38% - 43%). The weak group was to be defined as those students getting a score at the frustration reading level (below 38 %). In fact, all the students in the pilot project got frustrational level scores on the pre-test.

As a result of the pilot project, and keeping in mind Oller's finding about the proficiency levels of non-native speakers, more proficient ESL students were looked for. The University of British Columbia provided three classes of 20 Japanese students each. Based on the available numbers of classes plus the results of the pilot project (to be given in Chapter Four) a new research design was chosen in which only three types of cloze tests (two controls and one

treatment) were given. Each class was randomly given one of the three tests. In fact, at the time the test forms were assigned, the researcher had not been given the students' group level profiles from the Ritsumeikan project leader. As it turned out, the class with the highest rating as assessed by the Ritsumeikan teachers became the control group, the second highest became the color-coded cloze treatment group, and the weakest group became the random-color control group. The matching of classes to test types was somewhat intuitive and perhaps a touch biased, but indeed it was a fortunate choice because all but six of the students in the weakest group dropped out of the main project after the pre-test. After the first practice test even those six decided not to continue. If the weakest class had been assigned the rational CCC treatment and dropped out, that would have devastated the research project. Fortunately the color-coded treatment group and the main control group stayed in to test the question related to the effectiveness of the color-coded rational cloze procedure in helping students to look beyond the sentence of the cloze blanks for color-coded words to fill the blanks.

THE TREATMENT AND CONTROL PASSAGE FORMS

The nature of the forms

The purpose of the present research was to determine whether or not color-coding parts of speech could help adult ESL students learn to use inter-sentential clues that appear in the test passage. Therefore, in the pilot project the treatment group was given Form 4 below and each control group was given one of the three remaining forms of cloze procedure:

a) (Form 4) color-coded standard cloze passages in which all the words and blanks were coded according to the following non-random procedure. Nouns and pronouns were blue; verbs: red; adjectives: green; adverbs: purple: and conjunctions, prepositions, and interjections: black.

b) (Form 3) standard cloze + randomly colored words and blanks.

c) (Form 2) standard cloze + color-coded blanks only,

d) (Form 1) standard cloze

Note that standard cloze means the deletion of every fifth word, regardless of type of word, with standard length blanks. The first and last sentences of the approximately 300 word passage are left intact. The standard or traditional cloze was the reference point for the pilot project in the present experiment and thus was used for the control group and for the basic design of the color-coded

cloze and the other controlling variations in treatment. Each of these forms of cloze is described in Table 5 below.

TABLE 5
CONFIGURATIONS OF THE STANDARD CLOZE PROCEDURE AND VARIATIONS (PILOT PROJECT)

TYPE OF CLOZE	DELETION nth = 5	BLANKS 50	WORDS 300+/-6	INTACT 1st and last sentence
Form 1) STANDARD Cloze	Yes	Yes	Yes	Yes
Form 2) Standard Cloze + ALL BLANKS COLOR-CODED	Yes	Yes	Yes	Yes
Form 3) Standard Cloze + all blanks/words RANDOMLY colored	Yes	Yes	Yes	Yes
Form 4) Standard Cloze + all blanks/words COLOR-CODED	Yes	Yes	Yes	

Note: In the main project form 2 was not used and the other three forms used a rational cloze in which as many reiterative words were deleted as possible.

The method of coloring the passages

The process of preparing the cloze passages for color printing on an a printer compatible with the IBM personal computer will be given in the Appendices. Please refer to Appendix B.

THE STORIES USED FOR THE CLOZE PASSAGES

Introduction to the selection of the passages

Originally it had been intended to use the same passages throughout the CCC research project. For the main project, however, due to circumstances beyond the control of the researcher, a new set of passages had to be chosen from a text provided by the institution involved.

The cloze passages for the pilot project were taken from a recent ESL text called CANread by Patricia Raymond (1987). It contains ten stories about Canada. After a database analysis of parts of speech plus the frequency and location of deleted words, seven stories were chosen. Based on the number of same-word and same-root re-iterative clues available, on the Flesch readability formula (1948), plus on the Fry readability graph (1977), the stories were ranked and ordered according to their increasing difficulty. The pre-test/post-test selection, "Terry Fox", appeared to be

ranked in the middle of the difficulty range. See Tables 6 and 7 for more details about this range.

Used for the main project was a university introductory sociology text called Canadian Society, A Macro Analysis by Harry H. Hiller (1991). Several passages were chosen, usually one per chapter, usually from the introductory section where more re-iterative words were available. Passages with the most number of sets of re-iterative words were selected and written down. Then a square was drawn around all repeated words and one of each multiple marked for possible deletion. Words to be deleted were highlighted, keeping in mind that deleted words should not be contiguous as two blanks in a row would be extremely difficult for the students. Deletions were also identified in such a way that the remaining multiple would sometimes be before and sometimes after in order to determine if the position of the clues would have an influence on the retrieval of the deleted word. To help in the identification, all the words to be deleted were marked as to their location relative to their multiples elsewhere in the passage. i.e. before or after, and within or beyond the sentence of the deletion. All these words were given a symbol to indicate where they were located in relation to the undeleted multiples which were within/beyond or before/after the sentence of the deleted words. As no passage had 50 sets of re-iterative words, other words for deletion had to be selected. The researcher tried to choose

the easiest ones for the students to think of, while at the same time making sure that there was a reasonable distance between deletions.

The rationale for the type of text analysis performed on the pilot project

The text analysis was done:

a) to identify the parts of speech being deleted by the traditional every nth word procedure; and

b) to determine the proportion of the total number of 50 deletions each speech part category involved.

The purpose of this text analysis was primarily for future reference in understanding the test results and in explaining them in light of the previous research. In terms of more immediate goals, the process of determining the existence and location of same-word and same-root re-iterative clues was used to:

c) select the passages with the greatest number of same-word and same-root re-iterative clues, thus eliminating the supposedly more difficult passages; and

d) weight the scores according to the availability and location beyond or within the sentence of the same-word and same-root re-iterative clues.

The presentation of the text analysis for the pilot project

Table 6 and Table 7 below present a partial analysis of the stories. Appendix A lists all the words of each story passage, indicates which words have been deleted and gives the location of the same-word and same-root re-iterative clues (within or beyond the sentence of the deletion). Appendix A groups the deletions into part of speech categories, shows the number of deletions in each category and gives the percentage of the total 50 deletion total per story. Appendix A also shows a summarized distribution of the same-word and same-root re-iterative clues, as well as indicating the possible values for answers based on the location of the these re-iterative clues.

TABLE 6
NUMBER OF BLANKS/50 DELETIONS WHOSE FILLERS DO NOT APPEAR AT LEAST ONCE SOMEWHERE IN THE PASSAGE AND THE NUMBER OF WORDS IN THE PASSAGE. (STORIES ARE IN THE ORDER AS THEY APPEAR IN CANREAD.)

STORY NUMBER	TITLE	BLANKS/50	WORDS IN PASSAGE	COMMENTS
Story 1	The Donnellys	18/50	303	(pre/post-test)
Story 2	Louis Riel	18/50	300	(no change)
Story 3	Sasquatch	24/50	295	(2 changes)*
Story 4	Bethune	19/50	305	(no changes)*
Story 5	Japanese	23/50	303	(no changes)
Story 6	Terry Fox	21/50	297	(2 changes)*
Story 7	Insulin	24/50	300	(2 changes)*

*changes from original text made to simplify text

TABLE 7
AN ANALYSIS AND ORDERING OF THE CLOZE PASSAGES BASED ON A) THE NUMBER OF NON-RE-ITERATIVE CLUES FOR THE BLANK FILLERS AND B) READABILITY FORMULAS.

			READABLILITY	
STORY	TITLE	BLANKS/50 (non-re-iterative)	FRY Grade	FLESCH Grade
1:	Terry Fox	21/50 mid	8 mid	7 - 8 mid
2:	The Donnellys	18/50 low	6 - 7 low	6 low
3:	Louis Riel	18/5 low	7 low	7 - 8 mid
4:	Bethune	19/50 low	8 mid	7 - 8 mid
5:	Sasquatch	14/50 high	7 low	6 low
6:	Japanese	23/50 high	8 mid	7 - 8 mid
7:	Insulin	24/50 high	9 high	7 - 8 mid
8.	Terry Fox	21/50 mid	8 mid	7 - 8 mid

(low, mid and high = the relative difficulty and the passages, when compared with each other)

The rationale for the type of text analysis performed on the main project passages

The text analysis was done to:

a) select the passages with the greatest number of same-word and same-root re-iterative clues, thus eliminating the supposedly more difficult passages; and,

b) give as many intra- and inter-sentential re-iterative clues as possible for the students to locate with or without the benefit of color-coding.

The presentation of the text analysis for the main project

Tables 8 and 9 below are a summary of the data gathered about the deletions in the passages from the text called Canadian Society, A Macro Analysis.

TABLE 8
NUMBER OF BLANKS/50 DELETIONS WHOSE FILLERS DO NOT APPEAR AT LEAST ONCE SOMEWHERE IN THE PASSAGE; AND THE NUMBER OF WORDS IN THE PASSAGE.

STORY NUMBER	TITLE	BLANKS/50	WORDS IN PASSAGE	COMMENTS
Story 1	Perspectives	10/50	337	2 words repeated by mistake
Story 2	Society	20/50	333	
Story 3	Ethnicity	13/50	328	
Story 4	Uniqueness	15/50	335	
Story 5	Polities	13/50	349	
Story 6	Identity	12/50	329	
Story 7	Perspectives	10/50	337	

TABLE 9
AN ANALYSIS AND ORDERING OF THE CLOZE PASSAGES BASED ON A) THE NUMBER OF NON-RE-ITERATIVE CLUES FOR THE BLANK FILLERS, AND B) READABILITY FORMULAS.

STORY NUMBER	TITLE	BLANKS/50	WORDS IN PASSAGE	READABILITY GRADE
Story 1	Perspectives	10/50	337	15
Story 2	Society	20/50	333	14
Story 3	Ethnicity	13/50	328	15
Story 4	Uniqueness	15/50	335	15
Story 5	Polities	13/50	349	13
Story 6	Identity	12/50	329	12
Story 7	Perspectives	10/50	337	15

TABLE 10
NO. OF RE-ITERATIVE BLANKS

STORY NUMBER	TITLE	INTRA- AND INTER-SENTENTIAL BLANKS	INTER-SENTENTIAL BLANKS
Story 1	Perspectives	40/50	31/50
Story 2	Society	30/50	22/50
Story 3	Ethnicity	37/50	27/50
Story 4	Uniqueness	35/50	29/50
Story 5	Polities	37/50	31/50
Story 6	Identity	38/50	29/50
Story 7	Perspectives	40/50	31/50

THE ADMINISTRATION OF THE CLOZE PASSAGES FOR FIVE CLASSES

Overview of the distribution of the test and practice cloze passages in the pilot project

In the pilot project each group of students was given the same standard cloze passage as the pre-test and post-test. The passage was not modified in any way. A series of six more passages were given to each of the classes, one more the first week, two the second week, and two the third week, with the sixth and post-test coming during the fourth week. In each class each group of four (sometimes five) students had a different variation of the passage. The distributions of cloze tests were as follows in Table 11.

TABLE 11
DISTRIBUTION OF THE TREATMENT, VARIATIONS AND CONTROL CLOZE TESTS, WITH VARIATIONS APPLIED TO STANDARD (EVERY NTH WORD) CLOZE PROCEDURE FORMAT

Pilot Class	
(FORM 4) Color-coded	all blanks and words color-coded
(FORM 3) random	blanks and words colored randomly
(FORM 2) blank colored	only blanks color-coded
(FORM 1) standard	no color given

Note: each cell had four students.

Length of time required for pilot project

Each contact session with a class was a maximum of 50 minutes. That allowed 30 minutes for the students to fill in the cloze passage and 20 minutes to be divided up between initial instructions and feedback for the previous session's cloze passage. Given a total of eight sessions over a four week period that meant 6.6 hours of class time per class. In other words, a total of 33 hours spread over five classes was required of the ESL institutions' teaching time, 6.6 hours at Columbia College. In fact, from the second session onward the students took less and less time. As a result less time was given to the students in the main project to do the cloze passages; (20 minutes for the test and five minutes for looking at the answer keys)

Overview of the distribution of the test and practice cloze passages in the main project

In the main project each group of students was given the same standard cloze passage as the pre-test and post-test. The passage was not modified in any way. A series of five more passages were given to each of the classes, two the second week, and two the third week, with the fifth and post-test being administered during the fourth week. Each of the three classes in the main project was made up of a potential of 20 students. Table 20 shows the number of students in attendance for each session. Each class had a

different color variation of the passage. The distributions of cloze tests were as follows in Table 12.

TABLE 12
DISTRIBUTION OF THE TREATMENT, VARIATIONS AND CONTROL CLOZE TESTS, WITH VARIATIONS APPLIED TO RATIONAL CLOZE PROCEDURE FORMAT IN WHICH DELETIONS WERE CHOSEN TO MAXIMIZE NUMBER OF INTRA- AND INTER-SENTENTIAL CLUES

	Class 1	Class 2	Class 3
(FORM 4)			Color-coded
(FORM 3)		random color	
(FORM 1)	no color		

Note: Each class had a maximum attendance of 20 students, but the scores for only 13 students each from class 1 and class 3 were used for statistical purposes. Only the above 26 students completed the pre-test, post-test, and most of the practice tests. The majority of class 2 dropped after the pre-test and the rest after the first practice test.

Length of time required for the main project

For the pre-test 25 minutes were given. For the remaining six tests 20 minutes were given for completing each of the them and five minutes for reviewing the answer key of the previous test. The time used for presenting the instructions for the pre-test was much more than had been planned for: approximately 45 minutes instead of 15. However, subsequent sessions were on schedule.

The roles of the researcher, teachers and the students

In order to administer the cloze practice and test passages it was necessary for all participants to understand their roles correctly. Therefore, in this study the roles of the researcher, the teacher, and the students are described in detail. As it was necessary for the teachers to understand the roles of everyone and the students to know their own roles, the necessary instructions for carrying out the experiment were included in handout form and were given to the appropriate participants. The originals of these handouts are included in the appendices of this thesis. The role of the researcher is given in Table C, the role of the teacher in Table D, and the role of the students in Table E and Table F. Table E contains general and specific instructions for all the groups. The specific instructions were read out by the teacher as the students read along in their test folders. Table F adds special instructions for the groups using color-coded passages. The special instructions were included in the folders of the students doing the color-coded passages. In the pilot project the special instructions were on the inside left page of the folder. For the main project, thanks to a suggestion by Vera Wojna of the Language Institute of the University of British Columbia, the special instructions were placed at the top of the first page of the two page cloze passage sheets. This adjustment was made because it was believed that students would not have to look so far to find out the

meanings of color-coded words and blanks. For both the pilot and main projects the special instructions were not read out loud by the supervising researcher or teachers. The groups doing tests with randomly colored words or no coloring were not provided with any special instructions.

In order to give an idea of the proceedings, the teacher's role and part of the researcher's role are described at this time. In the pilot project the teacher was not required to take part, as the researcher carried out the teacher's role in administering of the tests. In the main project the teachers were in charge of their own classes.

In general, each day followed the same routine, with some exceptions. On the first day, the teacher handed out the cloze folders and pencils. In order to ensure the students' anonymity while providing the researcher with information to allow the tracking of the students' results from test to test, the students wrote a self-chosen secret code on the paper on the outside of the folder. Then they were asked to open the folder to the instructions on the inside left page of the folder. Next, the teacher read the instructions with the students. These instructions contained Ashby-Davis' suggestions for doing cloze passages. When finished this, the teacher told the students to begin. While the students were doing the cloze, the teacher watched to see there was no talking or other forms of compromising the test. Approximately every ten minutes the teacher

indicated on the board how much time was left. After the specified time was up, the students were told to put their pencils down and close their folders and wait while the teacher collected the folders and pencils. Then the teacher continued with the regular classwork if there was time. In the pilot and main projects there was no time left before the end of the class.

For the pilot project, during the same day the researcher collected the folders and pencils, then marked the tests. The pre-test scores were used to group the students by assigning the scores so that the sum totals of each group were equivalent. Then, each student's folder was given a number to identify the student in the class, to indicate the group, the form of the test, the rank of the student within the group, and the student's score on the pre-test. These sets of numbers were typed onto an Appleworks' spreadsheet and the scores recorded. Then the passage two tests were stapled into a duplicate set of identified folders.

On day two through the last day the procedure was the same. The only exception was with regards to the answer keys. On day three onward after the folders and pencils were collected the teacher handed out the undeleted text of the previous day's passage for the students to read and review individually. After about five minutes the teacher collected these passages.

Day eight was the last session of the pilot project. Due to time constraints, session seven was the last one for the main project. At the end the researcher or teacher thanked the students for their cooperation and a small gift was given to each of the classes.

The routine for the main project was similar except for two procedures. First, it was not necessary to enter the test data on the spreadsheet and analyse it right away. This was because the assignment of test forms did not depend on the pre-test scores. This, in turn, was because the assignment had been quasi-randomly pre-determined along class lines. Second, the students in the main project were given the answer keys to the day's test right after the test session instead of waiting until after the following test day.

THE SCORING OF THE CLOZE TESTS AND DATA ANALYSIS

Spreadsheets were used to collect the students' responses for each test. "Appleworks" and an Apple IIc computer were sufficient for the pilot project but more memory was needed for the major project. Thus, "Quattro" was used on an IBM 386 computer for the latter project. Using the Appleworks' spreadsheet program the researcher typed in all the students' answers into a formatted table (see Table 5 below). As planned the exact-answer marking

system was used. However, although a formula had been developed to weight scores (see Table 6 and Table 7 below and Table A in the appendix), this particular acceptable-word system was dropped. This was because of the insight that there was a more valid and less cumbersome way to analyze the answers in relation to the goal of finding out if students were looking beyond the immediate sentence of the cloze blank rather than just within the blank.

The new method of analysis was to delete from the spreadsheet the columns containing the types of fillers which either required external knowledge, followed by intra-sentential re-iterative fillers.

To analyze the data for each cloze passage two methods were used. First, to get a general idea, the mean score (exact-answer) was found for each group and graphed using "Quattro" bar graphs (see Figures 3, 8, 13, and 18). Second, two statistical programs were used. The first was the T-test to see if the two classes involved in the main project were significantly different from each other on the pre-test and on the post-test. (Note that class 2 had completely dropped out by the end of the second test because the uncolored pre-test had proved to be too frustrating for the majority and the randomly-colored second test too difficult for the remaining six more determined students.) The second statistical analysis, called "One Between and Repeated Measures ANOVA" was then applied to give a sensitive analysis and to check for trends across the series

of test passages. These statistical programs were used only for the main project where the cells were larger than for the pilot project.

It should be pointed out here that bar graphs using "Quattro" were made for a) the mean scores for the full set of the students in a class who wrote the particular test and b) a subset of students (n=14 for each class) who had written the pre- and post-test and most of the practice passages. The graphs of the full set were made to give a general idea of what the trend was for the different forms of cloze tests and the subset were to give a more valid picture of what had happened in the tests.

To use the "One Between and Repeated Measures ANOVA" statistical program the score data for the five practice tests were typed into a data file and run on the Main Frame Computer at the University of British Columbia. The purpose of the statistical analysis was to determine whether or not the treatment (completely-color-coded cloze practice) groups had made any significant improvement compared to the control (standard cloze practice) groups and to the other color treatment groups and also to see what effects the passages had on the group scores.

The data were analyzed and interpreted in Chapter Four, and recommendations and further research suggested in Chapter Five.

TABLE 13
ANSWER COLLECTION AND BLANK SCORE DETERMINATION CHART
AS IT LOOKED ON A SPREADSHEET
(PILOT PROJECT)

Page 1

TOTAL PRETEST	TEST 2 TOTAL
MEAN EXACT MTH	MEAN EXACT MTH
MEAN ACCEP MTH	MEAN ACCEP MTH

Page 1

SCORES FOR BLANKS

POINTS FOR.....	EXACT WORD	Exact Mth = 1	
EXPLANATION.....	CLUE LOCATION	same wrd	: diff wrd
POINTS FOR	T1:not in passage	T:10/9/8	
TYPES OF CLUE.....	T2: beyond senten	T:7/6/5	: 8/7/6
T3: within senten	T:5/4/4	: 6/5/5	

Cloze Form 4	1A4a: Student 1 Class A Group 4 Level a
(everything	2A4b: Student 2 Class A Group 4 Level b
color-coded)	3A4c: Student 3 Class A Group 4 Level c
	4A4d: Student 4 Class A Group 4 Level d
	5A4e: Student 5 Class A Group 4 Level e

MEAN EXACT MTH

MEAN ACCEP MTH

Cloze Form 3	6A3a: Student 6 Class A Group 3 Level a
(everything.....	7A3b: Student 7 Class A Group 3 Level b
color-coded	8A3c: Student 8 Class A Group 3 Level c
randomly)	9A3d: Student 9 Class A Group 3 Level d
	10A3e: Student10 Class A Group 3 Level e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 2	11A2a
(blanks	12A2b
color-coded)	13A2c
	14A2d
	15A2e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 1	16A1a
(Standard	17A1b
cloze).....	18A1c
	19A1d
	20A1e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 4 21B4a

22B4b

23B4c

24B4d

25B4e

MEAN EXACT MTH

MEAN ACCEP MTH

(For more see Appendix D.)

page 1

BLANK 1	B2	B3
his 0004	son 000(1)	He 10002
same	same	same
T:10/9/8		
T:7/6/5		T:7/6/5

TABLE 14
CRITERIA FOR DEVELOPMENT OF WEIGHTED SCORES
FOR THE PILOT PROJECT

A. Availability of clue
   1. clue is not in passage at all
   2. clue is beyond sentence of blank
   3. clue is within sentence of blank

B. Relation of clue to deleted word
   1. clue is same as deleted word (re-iterative)
   2. clue is same part of speech (synonym)
   3. clue is same part of speech with same root (friend...friendship
   4. clue is different part of speech, but with same root (eg. except...exception)
   5. clue is a phrase equivalent to the deleted word (eg. in the world...universal)
   6. clue is a pronoun or antecedent (Bill...he)
   7. clue is a referent (eg. the boy...Bill)
   8. clue is a cohesive pair (eg. salt and pepper)

C. Correctness of answer

   1. answer is exact and same, i.e. same word as blank
   2. answer is acceptable to meaning of passage
   3. answer is acceptable to meaning of only the sentence of the blank

TABLE 15
CALCULATION OF CLOZE PASSAGE SCORES
FOR THE PILOT PROJECT

To calculate the scores categories, use the following procedure.

1. Start with category A: availability of clue.

   The highest possible score is 10.

   If clue is not in the passage, A1. = 10

   If clue is beyond sentence, A2. = 8

   If clue is within sentence, A3. = 6

2. Then consider category B in conjunction with A. This gives three types of scores as follows.

TYPE 1: (no same-word (re-iterative) clue within passage)

pvA1, if C1 (answer is same as blank) = 10

A1, if C2 (acceptable to passage) = 9

A1, if C3 (acceptable to sentence) = 8

TYPE 2: (clue beyond sentence)

(clue same as deletion)		(clue different)	
A2, if B1		A2, if B2 through B7	
and C1	= 7	and C1	= 8
or C2	= 6	or C2	= 7
or	= 5	or C3	= 6

TYPE 3: (clue within sentence)

(clue same as deletion)		(clue different)	
A3, if B1		A3, if B2 through B7	
and C1	= 5	and C1	= 6
or C2	= 4	or C2	= 5
or C3	= 4	or C3	= 5

TABLE 16
ANSWER COLLECTION AND BLANK SCORE DETERMINATION CHART
AS IT LOOKED ON A SPREADSHEET
(MAIN PROJECT)

NAME OF PASSAGE:			
TYPE OF BLANK	(EXTERN) B1	INTER- B2	INTRA- B3
KEY WORD	***	######	&&&&&&
STUDENT IDENTITY			
Class 1			
JNK	1	$$$$$	&&&&&s
DAV	^^^^^	1	(empty)
APR	1	(empty)	1
Total:	2	1	1
Mean	.66	.33	.33
Class 3			
TM	(empty)	1	######
MM	1	1	&&&&&&s
HN	(empty)	(empty)	(empty)
Total:	1	2	0
Mean:	.33	.66	0

CHAPTER FOUR

ANALYSES AND DISCUSSION

INTRODUCTION

In Chapter One the reasons for the present research project were given. Chapter Two presented the historical background which underpinned these reasons and suggested the framework for the research design. Chapter Three set out the design of the pilot project and mentioned some of the results which led to the design of the main project. It is now the role of Chapter Four to summarize the changes in design (please see Table 17 below), point out some of the problems and solutions in the projects (located in Table 18), and in light of all of these to present the research data. The data are of two kinds. One kind includes a look at the scores for the right answers. The other looks at the same information as it interacts with the confidence levels of the students (the confidence levels being determined by the number of cloze blanks filled by the students). Finally, in Chapter Four some conclusions will be drawn about the effectiveness of the color-coded cloze procedure in helping students look for inter-sentential reiterative-word clues for use in filling the cloze blanks. Chapter Five will discuss implications of the research and suggest a variety of possible future designs for research with the color-coded cloze.

CHANGES MADE TO THE CLOZE PROCEDURE AFTER THE PILOT PROJECT

As a result of observations made in the pilot project a number of changes were undertaken. They are outlined in Table 17 below.

TABLE 17
CHANGES TO CLOZE PROCEDURE AFTER PILOT PROJECT

TYPES OF CHANGES	PILOT PROJECT	MAIN PROJECT
Proficiency level of students	upper intermediate (as defined by the participating college)	upper advanced (as defined by TOEFL and Language Proficiency Index, three levels indicated) to make cloze easier
Assignment of students to groups	according to pre-test results: the students were placed so the groups' mean scores were the same	each of the three classes was given a different form of the cloze test
No. of forms of the cloze	four	three (to increase the no. of students in each cell to lessen the factor of chance)
No. of tests	eight	seven (to save time and reduce boredom)
Source of passages	"CANRead" - an ESL anthology about Canadian heroes	"Canadian Society" an introductory university text on Canadian issues
Length of the passages	300 words (approx.)	330 words (approx.) (to keep the sense of the passage)
Length of time to do the cloze tests	30 minutes for each test	25 minutes for pre- and post-tests; 20 minutes others (in pilot only 15 minutes needed)

Deletion pattern	every fifth word	rational deletion (to maximize no. of reiterative-word blanks)
Method of deleting words	typed passages onto spreadsheets and deleted every fifth word	xeroxed passages; underlined and counted the reiterative-words; wrote the passages into a notebook; highlighted reiterative-words; deleted some from before, others from after, some from between other members of the set. Blanks were never side by side.
Location of color-coding key	on the inside of the front cover	on top of page 1 of the passage (for easier reference
Feedback	gave answer keys after the following test	gave answer key immediately after its practice test
Data Collection	used Appleworks spreadsheet; used rows for students, columns for key answers for each cloze blank and each student's answer; assigned each student a ranking number (Student 1. Class A, Group 1, Level a) to attach to their own anonymous ID code; each answer weighted	used Quattro (IBM) spreadsheet; used rows for students, columns for key answers for each cloze blank and each student's anonymous ID listed within class in no particular order; labelled each blank as to type (intra-, inter-sentential, external (nothing)
Analysis	graphed mean scores for a) all 50 blanks and b) beyond reiterative Nouns, Verbs, Adjectives, Adverbs	graphed mean scores for a) all 50 blanks, b) intra- + inter-sentential, c) intra-sentential and d) inter-sentential blanks

PROBLEMS AND SOLUTIONS IN PILOT AND MAIN PROJECTS

Table 18 which follows looks at the changes in terms of the problems faced in the pilot project. Changes are given as intended solutions to those problems. Problems in the main project are presented as a guide to solutions in subsequent cloze procedure research.

TABLE 18
PROBLEMS AND SOLUTIONS IN PILOT AND MAIN PROJECTS

PROBLEMS and SOLUTIONS	PILOT PROJECT	MAIN PROJECT
Schools:	tight schedules to finish their own curriculums, but they volunteered one class	tight schedules to finish their own curriculums, but volunteered three classes did not accept pilot project passages, but offered a text from their program
Test Location:		poorly lighted, but teacher of treatment group put strong lamp on a table in middle of group
Students:		
quantity	number insufficient for statistical purposes (4/cell)	number barely sufficient (20/cell max) (13/cell wrote most tests and so were suitable for doing statistics)
mortality	a few students missed tests, most wrote them another day	a few students missed tests and did not do them later, but their scores were based on the mean of

			means of all the practice tests
			a whole class dropped out, but not the main control or the treatment group
Cloze tests: ease	very difficult		very difficult
Production printing quality	one unclear group of words, but researcher told students what they were		
typing error			the answer to the blank was left in and another used again leading to confusion in the pre-/post-test, but any possible answer was accepted as one point (very few students got a point) (it is not known if this typing error caused the scores to be lower on the pre- and post-tests.
equipment			the color-printer near the end of the project began to color-code erratically, but color-photocopies were made on the way to the test session

THE RESEARCH DATA

The Pilot Project

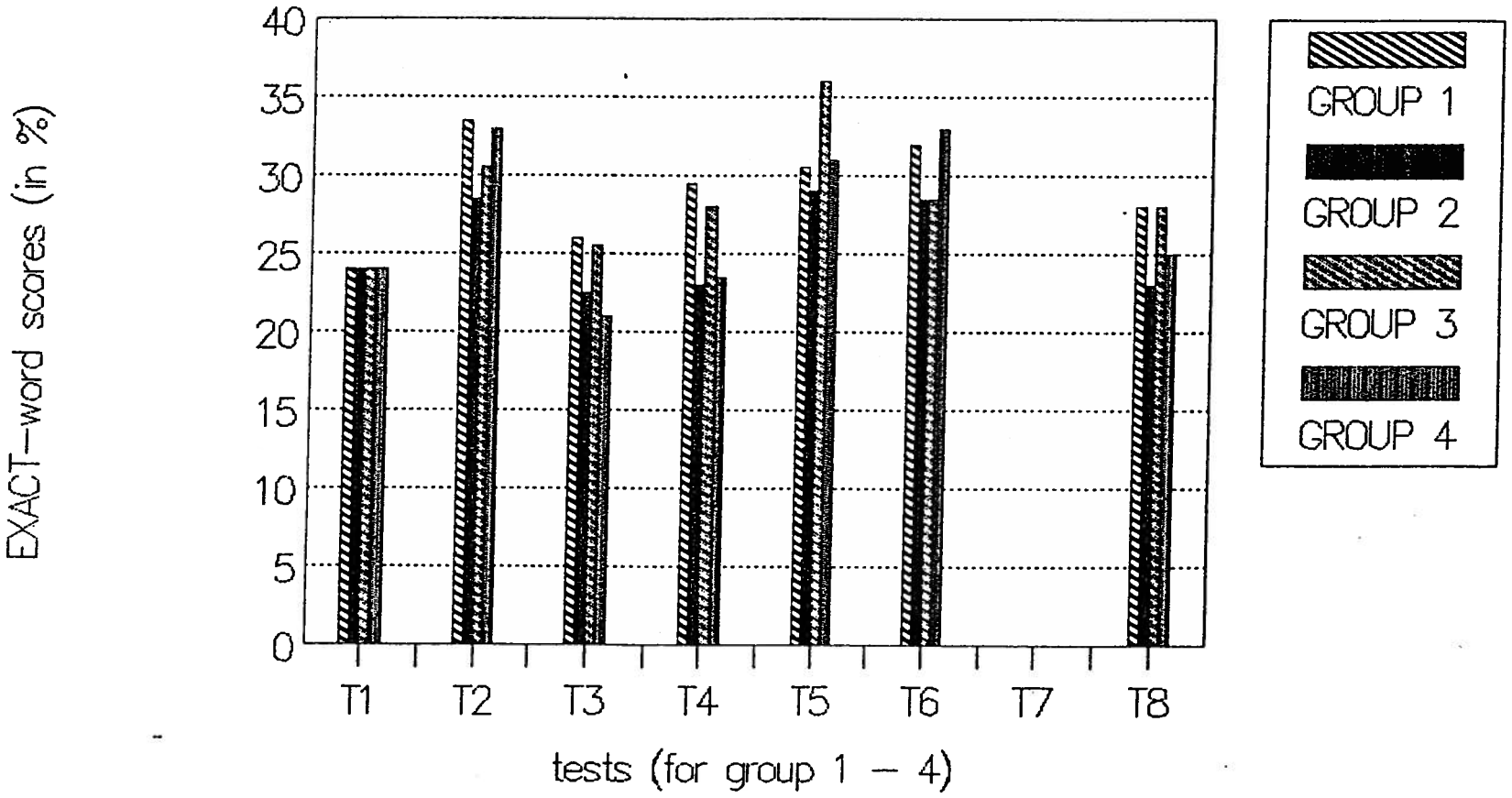
When the test means were graphed for the four groups the data appeared as on the graphs immediately below. It is apparent from these sample graphs that overall the CCC treatment group did not do as well as the standard-cloze control group but did accelerate and slightly overtake the main control group on tests 5 and 6, losing the advantage once again in the post-test when the color-coding was removed. Yet, because the number of subjects in each group cell was so small (N = 4), it would have been difficult to state any statistical conclusions with very much confidence. The results needed to be confirmed by research done with more students. Even though the results of the pilot project could prove nothing, they did suggest that the color-blank-only control was the weakest and could be eliminated, and thus allow more students per group in the main project.

Using the pilot graphs as a (very rough) guideline and given the limited opportunity to obtain students to do cloze research, it was decided to move on and try out ideas uncovered in the review of the literature. The researcher wanted to know what would happen when the students were at a higher language proficiency level and when more inter-sentential reiterative words were available to be found to fill the cloze blanks. As a result of these questions these changes were introduced into the main project for all the groups. It was hoped that more proficient readers could

make better use of the color-coded parts of speech to find the reiterative clues that were known to the researcher to be somewhere in the passages. It was thought that these new conditions, applied to all the groups, just might improve the treatment group's scores over the control groups who had everything but the color-coded clues. To make the color-coded parts of speech easier for the treatment group to learn, the color-coding keys were moved from the inside of the test folder to the top of page one of each of the practice cloze passages.

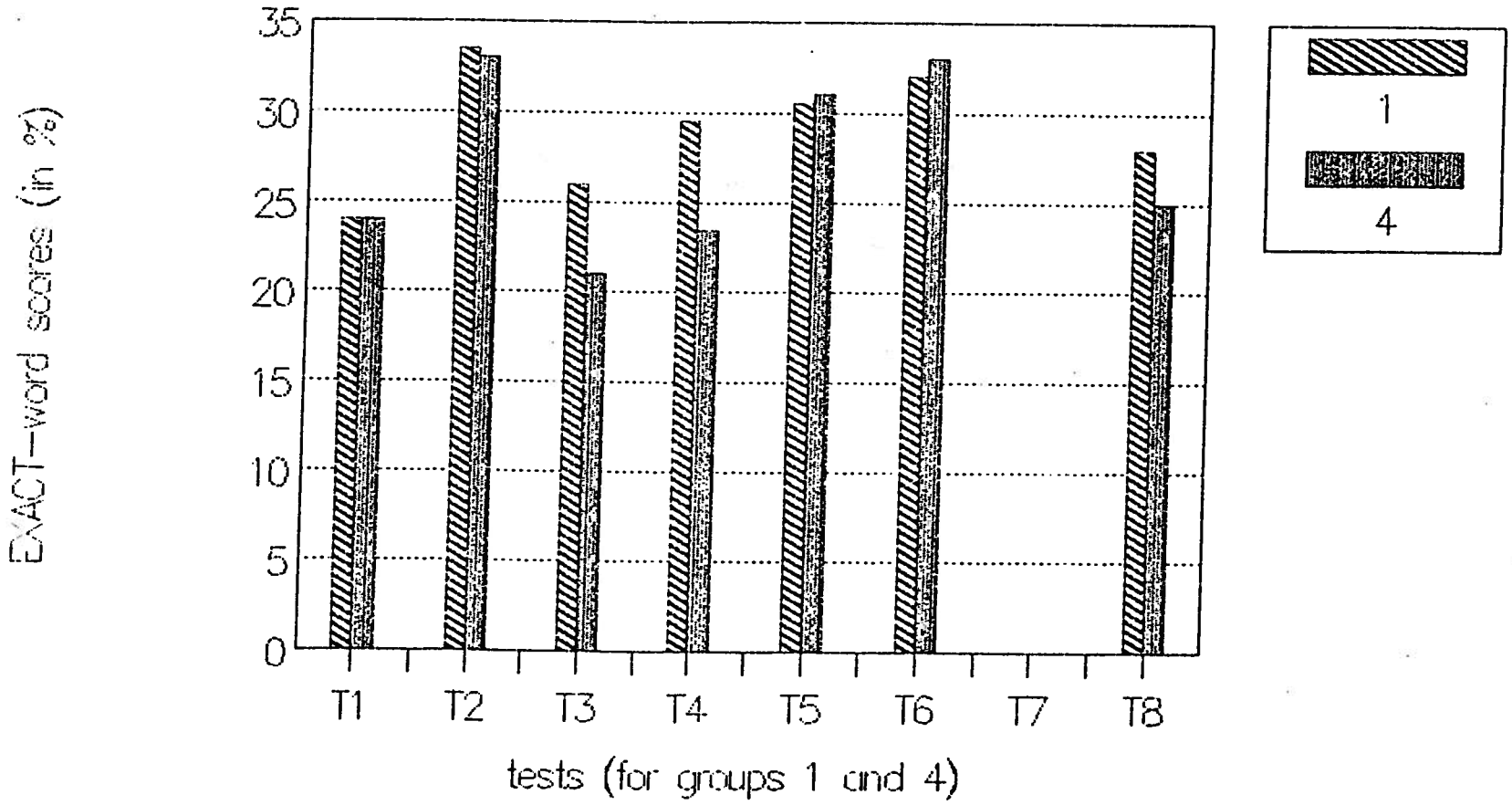
PILOT: All 50 Blanks (N = 4)

1.Standard/2.Color–Blank/3.Random/4.CCC



PILOT: All Blanks (in %)

Standard / Color-Coded Cloze



The Main Project

An overview

The data for the main project are comprised of two kinds and pertain to groups (classes) 1 and 3, group 2 having completely dropped out due to frustration by the end of the first practice test. The first data summarize the scores for the exact-word and acceptable-word answers given by the students in the control group (Cl1) and the treatment group (Cl3). The summaries are in tabular, graphic, and statistical forms for the exact-word scores and tabular form for the acceptable-word scores. The second data summarize the same information but as it relates to the confidence levels of the students. (In finding confidence levels, it should be noted that for absentee students the actual N was used instead of including the mean of the means for those absentee students as was done for the other kind of summaries.) Confidence levels were defined in terms of the number of cloze blanks filled. The interaction of exact-word answers (only exact-word answers were focussed on) and confidence levels yielded scores under the heading of "<u>productive confidence</u>". This data was summarized in tabular and graphic forms only. While summarizing and finding trends in exact-word answer scores were the main and original concerns in the present CCC study, productive confidence information emerged during the research as a way to describe and discover what effects the CCC was having on the students' motivation to use the color-coding to find the

same-word re-iterative inter-sentential clues. Together, the outcome of these two kinds of data analyses along with the answers from a post-session questionnaire was meant to indicate the effectiveness and value of using the color-coded cloze procedure with adult ESL students.

Summary of the data

To determine any improvement in the cloze ability the results of each cloze test were subjected to four analyses for answer scores as follows:

a) all 50 cloze blanks,

b) intra- and inter-sentential (Erra) cloze blanks,

c) intra-sentential cloze blanks, and

d) inter-sentential cloze blanks.

Each of these analyses examined exact-word answer scores and acceptable-word answer scores. Raw-score tables are included for exact-word answers for all the tests. With regards to acceptable-word answer scores, as a matter of economy, raw-score tables are only included for the pre- and post tests. In Appendix H mean-score tables summarize and compare data for both the exact- and acceptable-word types.

Then, to determine any improvements in motivation (confidence), four more analyses were made:

e) the total number of blanks filled,

f) the number of blanks filled to the possible number of blank types,

g) the total number of blanks filled correctly, and

h) the number of correct blanks as a proportion of the number of blanks filled.

Analysis (e) was meant to indicate the confidence level and (g) the level of productive confidence of each group for each test. For the motivational analyses it was felt sufficient to present only the exact-word data. The reason for this was that the motivational data was determined by including the score data in their calculation. Because the acceptable-word scores increased the distance between the control group and the treatment group scores in favor of the control group, this meant that the resulting motivational scores would be greater for the control group. As the goal of the motivational analysis was to discover if the treatment group could close the gap between it and the control group, there was no point in pursuing the acceptable-word analysis any further. However, the pursuit may be worthwhile in subsequent research if the treatment group does better than the control group.

For the present research many tables and graphs are still provided. In order for them to be conveniently viewed and understood, the data for answer scores and confidence scores are grouped together so that all summaries for (a) the 50 blanks are shown, all the summaries for b) the intra- and inter-sentential (Erra) blanks are shown, etc. through (c) and (d). After these tables and graphs there is a discussion section expressing the apparent findings. Following these are the T-test and ANOVA tables and an

explanation. Included next, the discussion of the motivational data intends to add information to the previous discussion to help decide whether or not the rationalized color-coded cloze procedure is worth all the extra effort to produce the color-coded passages. The motivational data are presented in that particular location in order to help in the interpretation of the data and in the decision on which to rely on more, the tabular/graphic or the statistical data. Finally, a summary table of the questionnaire and a discussion are included to further formulate the answer about the value of color-coding to the cloze procedure.

TABLE 19 FOR THE MAIN PROJECT
TEST DATA: EXACT-WORD (AND SOME ACCEPTABLE-WORD) SCORES

CLASS 1 EXACT-WORD SCORES					CLASS 1 ACCEPTABLE-WORD SCORES			
N CL1	PRE-TEST All	PRE-TEST Erra	PRE-TEST Inter	(N = cell) (Erra = Intra- + Inter- sentential word blanks)	N CL1	PRE-TEST All	PRE-TEST Erra	PRE-TEST Inter
JNK	10.5	7.5	4.0		JNK	20.5	15.5	12.0
DAV	10.0	6.0	2.0		DAV	17.0	12.0	8.0
APR	9.0	6.0	4.0		APR	15.0	11.0	9.0
ABC	6.0	5.0	3.0		ABC	7.0	6.0	3.0
JPN	12.5	10.5	6.0		JPN	13.5	12.5	8.0
BOX	12.5	9.5	7.0		BOX	14.5	10.5	7.0
MAT	10.0	8.0	6.0		MAT	21.0	10.0	7.0
USA	11.0	10.0	6.0		USA	18.0	14.0	10.0
MCN	13.0	10.0	8.0		MCN	17.0	13.0	10.0
TAK	11.0	10.0	8.0		TAK	17.0	15.0	12.0
YAS	7.0	4.0	3.0		YAS	11.0	7.0	6.0
SSK	9.0	7.0	5.0		SSK	15.0	11.0	8.0
ABC	7.5	5.5	3.5		ABC	12.5	8.5	6.5
Tot	129.0	99.0	65.5	(Tot=Total)	Tot	199.0	146.0	106.5
Mn	9.9	7.6	5.0	(Mn = Mean Score)	Mn	15.3	11.2	8.2
%	19.9	15.2	10.1		%	30.6	22.2	16.4

N CL1	T2 All	T2 Erra	T2 Inter	T3 All	T3 Erra	T3 Inter	T4 All	T4 Erra	T4 Inter
JNK	12.6	10.7	6.7	13.0	11.0	8.0	17.0	15.0	12.0
DAV	10.0	9.0	4.0	13.0	12.0	6.0	15.0	13.0	10.0
APR	5.0	4.0	2.0	9.0	7.0	6.0	16.0	14.0	11.0
ABC	7.0	6.0	2.0	12.0	11.0	7.0	12.0	9.0	6.0
JPN	13.0	11.0	5.0	13.0	12.0	6.0	15.0	12.0	9.0
BOX	9.0	8.0	4.0	7.0	5.0	4.0	8.0	6.0	4.0
MAT	9.0	8.0	3.0	15.0	14.0	10.0	15.0	13.0	9.0
USA	3.0	3.0	2.0	10.0	9.0	5.0	12.0	9.0	7.0
MCN	11.0	10.0	6.0	14.0	14.0	9.0	12.0	10.0	8.0
TAK	8.0	6.0	3.0	4.0	3.0	2.0	11.0	8.0	5.0
YAS	8.0	7.0	3.0	12.0	10.0	5.0	16.0	14.0	11.0
SSK	9.0	8.0	3.0	12.0	10.0	7.0	15.0	13.0	10.0
ABC	12.6	10.7	6.7	12.0	11.0	9.0	14.0	10.0	7.0
Tot	117.2	101.4	50.4	146.0	129.0	84.0	178.0	146.0	109
Mn	9.0	7.8	3.9	11.2	9.9	6.5	13.7	11.2	8.4
%	18.0	15.6	7.8	22.5	19.8	13.1	27.4	22.5	16.8

CLASS 1 EXACT-WORD SCORES (cont'd)

N CL1	T5 All	T5 Erra	T5 Inter	T6 All	T6 Erra	T6 Inter
JNK	15.0	13.0	11.0	14.0	11.0	10.0
DAV	12.0	11.0	8.0	13.0	11.0	8.0
APR	12.0	10.0	7.0	13.0	11.0	9.0
ABC	12.0	10.0	7.0	12.6	10.7	6.7
JPN	15.0	15.0	12.0	12.6	10.7	6.7
BOX	16.0	14.0	11.0	13.0	10.0	8.0
MAT	15.0	13.0	10.0	13.0	9.0	7.0
USA	6.0	6.0	5.0	12.6	10.7	6.7
MCN	17.0	15.0	12.0	27.0	23.0	17.0
TAK	11.0	11.0	9.0	12.6	10.7	6.7
YAS	18.0	18.0	14.0	12.6	10.7	6.7
SSK	13.0	12.0	10.0	12.6	10.7	6.7
ABC	17.0	14.0	11.0	22.0	18.0	13.0
Tot	179.0	162.0	127.0	190.6	157.2	112.2
Mn	13.8	12.5	9.7	14.7	12.1	8.6
%	27.6	24.9	19.4	29.3	24.2	17.3

EXACT-WORD SCORES

N CL1	POST-TEST All	POST-TEST Erra	POST-TEST Inter
JNK	10.5	8.5	6.0
DAV	7.5	5.5	2.5
APR	12.0	10.0	6.0
ABC	11.0	9.0	6.0
JPN	11.5	9.5	7.5
BOX	13.0	11.0	8.0
MAT	9.0	7.0	7.0
USA	11.0	7.5	5.0
MCN	15.0	14.0	13.0
TAK	17.0	15.0	11.0
YAS	12.0	11.0	8.0
SSK	15.0	13.0	10.0
ABC	10.0	8.0	5.0
Tot	154.5	129.0	95.0
Mn	11.9	9.9	7.3
%	23.8	19.9	14.6

(Erra = intra- + inter- sentential word blanks)

ACCEPTABLE-WORD SCORES

N CL1	POST-TEST All	POST-TEST Erra	POST-TEST Inter
JNK	21.5	17.5	13.0
DAV	12.5	6.5	3.5
APR	18.0	12.0	8.0
ABC	19.0	12.0	9.0
JPN	15.5	12.5	10.5
BOX	18.0	15.0	11.0
MAT	21.0	15.0	14.0
USA	11.0	10.5	8.0
MCN	19.0	16.0	14.0
TAK	23.0	20.0	16.0
YAS	21.0	16.0	23.0
SSK	21.0	17.0	13.0
ABC	15.0	12.0	8.0
Tot	235.5	182.0	151.0
Mn	18.1	14.0	11.6
%	36.2	28.0	23.2

CLASS 3 EXACT-WORD SCORES

N CL3	PRE-TEST All	PRE-TEST Erra	PRE-TEST Inter
TMI	7.5	4.5	3.0
MM1	9.5	7.0	5.0
TM2	11.0	9.0	6.0
HN	8.0	7.0	6.0
MW	10.0	8.0	6.0
GST	6.0	4.0	3.0
YK	8.5	6.5	1.0
MM2	2.0	0	0
HG	13.5	10.5	6.0
HO	14.0	10.0	7.0
MI	14.0	13.0	9.0
TI	3.5	2.0	1.0
NN	6.0	4.5	4.0
Tot	113.5	86.0	57.0
Mn	8.7	6.2	4.4
%	17.5	13.2	8.8

(N = cell)

(Erra = intra- + inter-sentential word blanks)

(Tot=Total)

(MN = Mean Score)

CLASS 3 ACCEPTABLE-WORD SCORES

N CL3	PRE-TEST All	PRE-TEST Erra	PRE-TEST Inter
TM1	11.5	6.5	5.0
MM1	15.5	11.0	9.0
TM2	14.0	9.0	6.0
HN	20.0	9.0	8.0
MW	14.0	10.0	8.0
GST	9.0	5.0	4.0
YK	13.5	8.5	3.0
MM2	4.0	1.0	1.0
HG	20.5	16.5	12.0
HO	21.0	15.0	12.0
MI	16.0	14.0	10.0
TI	8.5	5.0	4.0
NN	8.0	4.5	4.0
Tot	175.5	115.0	86.0
Mn	13.5	8.8	6.6
%	27.0	17.6	13.2

N CL3	T2 All	T2 Erra	T2 Inter	T3 All	T3 Erra	T3 Inter	T4 All	T4 Erra	T4 Inter
TMI	0	0	0	4.0	4.0	3.0	4.0	2.0	1.0
MM1	6.0	5.0	3.0	18.0	15.0	9.0	15.0	12.0	9.0
TM2	14.0	12.0	7.0	7.0	6.0	5.0	11.0	9.0	6.0
HN	7.0	6.0	4.0	10.0	10.0	6.0	9.0	7.0	4.0
MW	4.0	3.0	0.0	9.0	7.0	5.0	15.0	12.0	9.0
GST	7.0	6.0	3.0	8.0	7.0	5.0	9.7	8.3	5.7
YK	9.0	6.0	2.0	11.0	10.0	8.0	9.0	7.0	3.0
MM2	10.0	7.0	3.0	12.0	11.0	7.0	14.0	12.0	8.0
HG	4.0	3.0	1.0	7.0	5.0	2.0	12.0	10.0	7.0
HO	4.0	3.0	0	2.0	2.0	2.0	13.0	10.0	7.0
MI	7.0	6.0	3.0	4.0	4.0	3.0	9.7	8.3	5.7
TI	6.0	6.0	4.0	9.0	8.0	5.0	10.0	8.0	6.0
NN	8.0	6.0	2.0	9.0	9.0	5.0	16.0	13.0	9.0
Tot	86.0	69.0	32.0	110.0	98.0	65.0	147.4	118.6	80.4
Mn	6.6	5.3	2.5	8.5	7.5	5.0	11.3	9.1	6.2
%	13.2	10.6	4.9	16.9	15.1	10.0	22.7	18.2	12.4

CLASS 3 EXACT WORD SCORES (continued)

N CL3	T5 All	T5 Erra	T5 Inter	T6 All	T6 Erra	T6 Inter
TMI	8.0	6.0	6.0	4.0	4.0	2.0
MM1	15.0	13.0	12.0	9.7	8.3	5.7
TM2	11.0	10.0	7.0	19.0	15.0	11.0
HN	14.0	14.0	11.0	9.7	8.3	5.7
MW	9.0	9.0	7.0	9.7	8.3	5.7
GST	10.0	8.0	7.0	13.0	10.0	6.0
YK	22.0	19.0	15.0	19.0	17.0	12.0
MM2	14.0	13.0	10.0	14.0	11.0	7.0
HG	16.0	16.0	12.0	9.7	8.3	5.7
HO	11.0	9.0	7.0	17.0	15.0	12.0
MI	13.0	9.0	7.0	15.0	11.0	7.0
TI	9.0	9.0	7.0	16.0	15.0	11.0
NN	17.0	16.0	13.0	9.7	8.3	5.7
Tot	169.0	151.0	121.0	165.5	139.5	96.5
Mn	13.0	11.6	9.3	12.7	10.7	7.4
%	26.0	23.4	18.6	25.5	21.5	14.8

N CL3	POST-TEST All	POST-TEST Erra	POST-TEST Inter
TMI	6.5	4.5	4.0
MM1	13.0	10.0	6.0
TM2	12.0	11.0	7.0
HN	10.5	9.5	8.0
MW	9.5	7.5	6.5
GST	5.5	3.5	2.0
YK	19.0	16.5	10.0
MM2	9.0	7.0	5.5
HG	11.0	7.0	6.0
HO	13.0	10.0	7.0
MI	12.0	10.0	6.0
TI	3.5	2.0	2.0
NN	11.0	9.0	5.0
Tot	135.5	107.5	75.0
Mn	10.4	8.3	5.8
%	20.8	16.5	11.5

(Erra = intra- + inter-sentential word blanks)

N CL3	POST-TEST All	POST-TEST Erra	POST-TEST Inter
TM1	8.5	5.5	5.0
MM1	21.0	13.0	8.0
TM2	21.0	17.0	12.0
HN	22.5	17.5	15.0
MW	16.5	12.5	9.5
GST	5.5	3.5	2.0
YK	27.0	25.5	15.0
MM2	12.0	10.0	8.5
HG	19.0	14.0	12.0
HO	19.0	15.0	11.0
MI	14.0	10.0	6.0
TI	5.5	3.0	3.0
NN	18.0	14.0	10.0
Tot	226.0	160.5	117.0
Mn	17.4	12.3	9.0
%	34.8	24.6	18.0

TABLE 20 FOR THE MAIN PROJECT
MEAN SCORES FOR ALL 50 CLOZE BLANKS

TEST	LEVEL OF READ-ABIL-ITY	NO. OF WORDS	MEAN SCORES All Blanks In % Gr 1 Exact Accept	Gr 3 Exact Accept	NO. OF STUDENTS PRESENT In Analysis Gr 1	Gr 3	Actually Gr 1	Gr 3
Pre-	15	327	^19.9 ^30.6	17.5 27.0	13	13	19	20
^ means that the score for this group is higher than for the other group.								
T2	14	333	^18.0	13.2	11	13	14	19
T3	15	322	^22.4	16.9	13	13	18	18
T4	15	332	^27.4	22.7	13	11	16	17
T5	13	335	^27.5	26.0	13	13	17	18
T6	12	328	^29.3	25.5	7	8	9	13
Post	15	327	^23.8 ^36.2	20.8 34.8	13	13	14	14

All 50 Blanks

N = 13

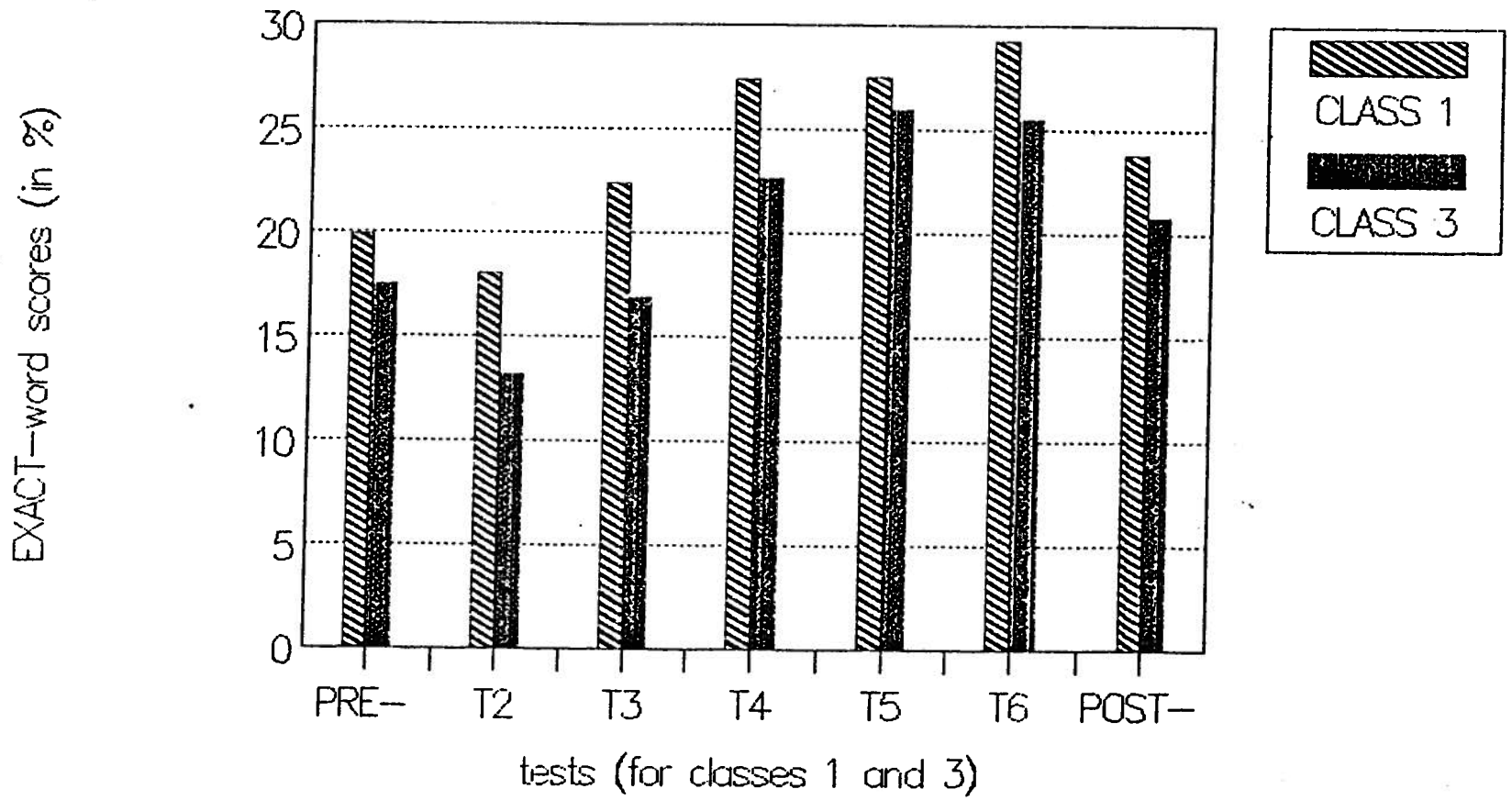


TABLE 21 FOR THE MAIN PROJECT
PRODUCTIVE CONFIDENCE SCORES FOR ALL 50 CLOZE BLANKS

PCS

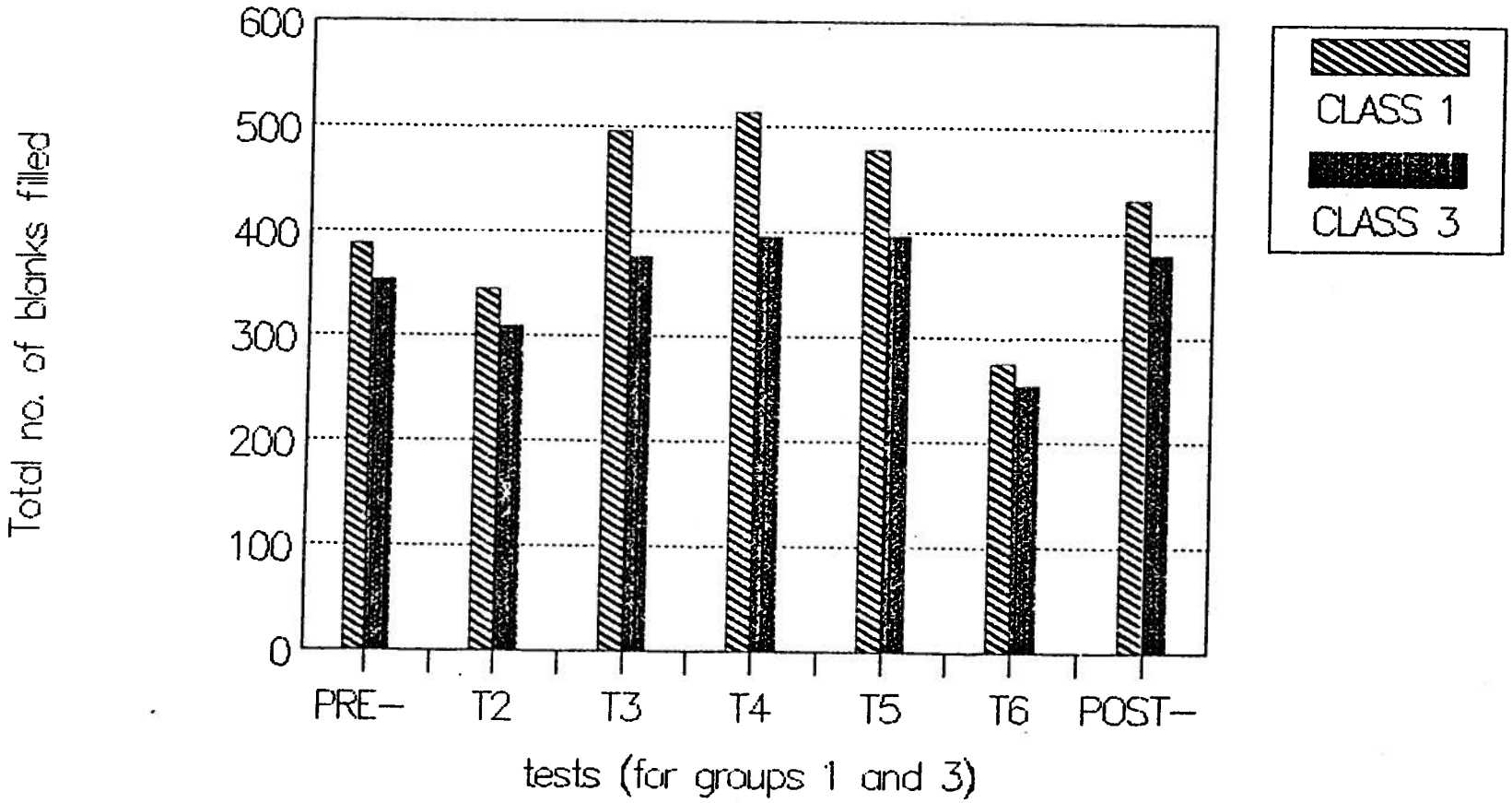
TEST	LEVEL OF READ-ABIL-ITY	NO. OF BLANKS PER TEST A	NO. OF STUD-ENTS IN EACH TEST B	TOTAL NO. OF BLANKS AxB= C	TOTAL NO. OF BLANKS FILLED D	% OF BLANKS FILLED TO POSS-IBLE In % D/C= E	TOTAL NO. OF BLANKS FILLED COR-RECTLY F	COR-RECT BLANKS TO NO. OF FILLED In % F/D= G
Pre-	Gr1	50	13	650	^388	^59.7	^129	^33.2
	15							
	Gr3		13	650	353	54.3	113.5	32.2

^ means that the score for this group is higher than for the other group.

T2	Gr1	50	11	550	344	^62.5	92	26.7
	14							
	Gr3		13	650	309	47.5	86	^27.8
T3	Gr1	50	13	650	^496	^76.3	^146	29.4
	15							
	Gr3		13	650	367	56.5	110	^30.0
T4	Gr1	50	13	650	514	^79.1	178	^34.6
	15							
	Gr3		11	550	395	71.8	128	32.4
T5	Gr1	50	13	650	^478	^73.5	^180	37.7
	13							
	Gr3		13	650	397	61.1	169	^42.6
T6	Gr1	50	7	350	275	^78.6	115	41.8
	12							
	Gr3		8	400	254	63.5	117	^46.1
Post	Gr1	50	13	650	^432	^66.5	^154.5	35.9
	15							
	Gr3		13	650	379	58.3	135.5	35.8

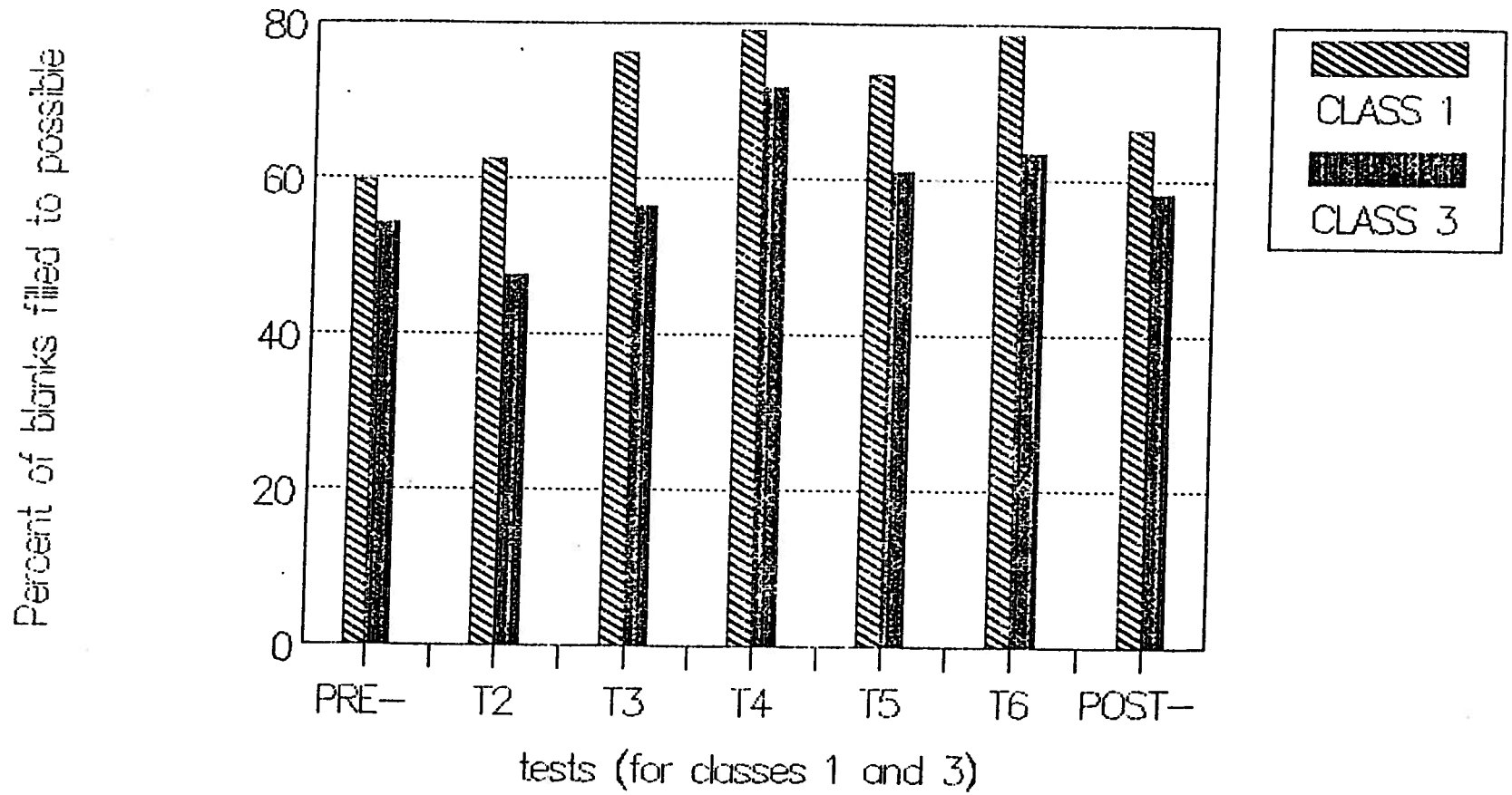
All 50 Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



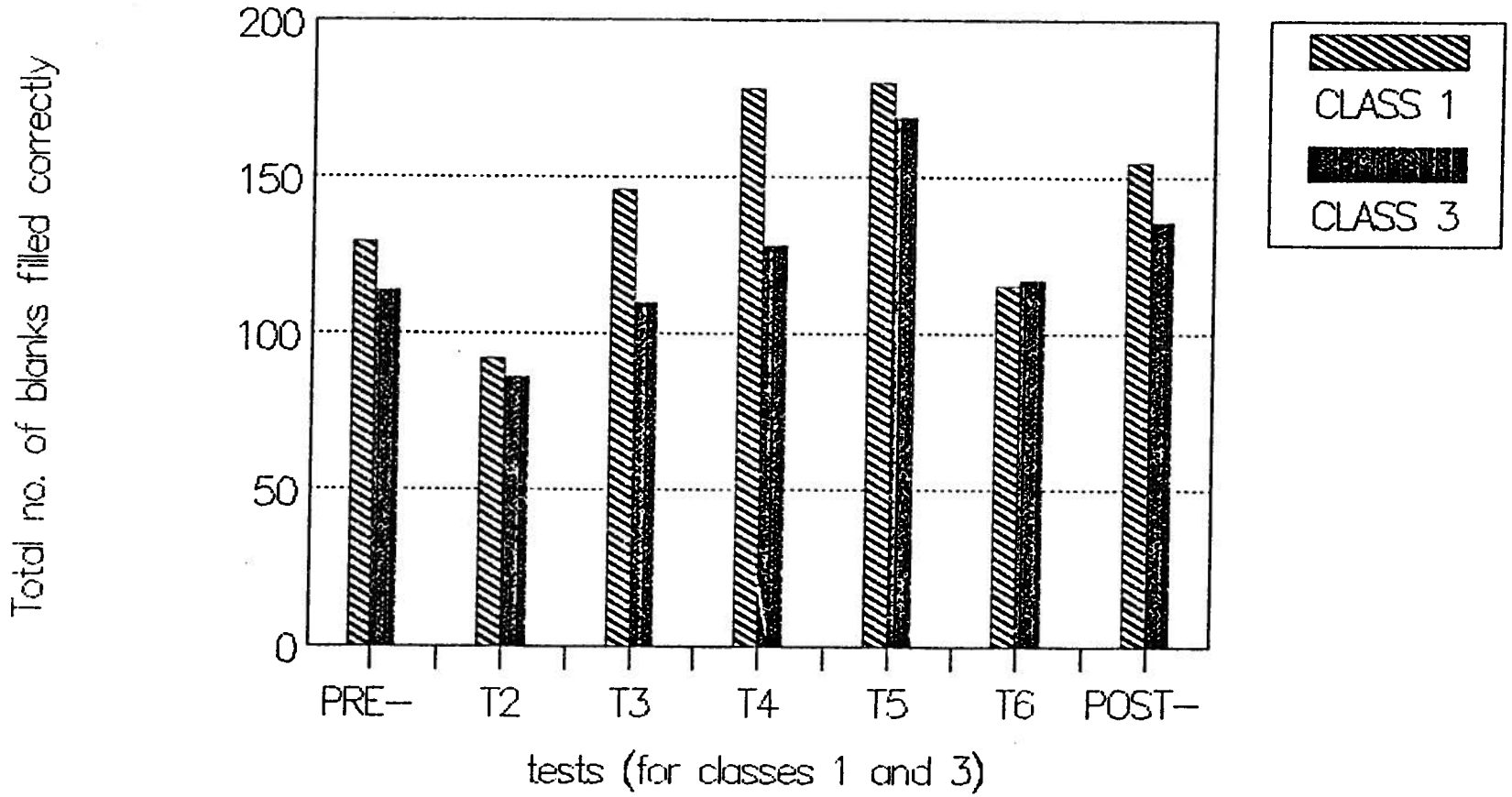
All 50 Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



All 50 Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



All 50 Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)

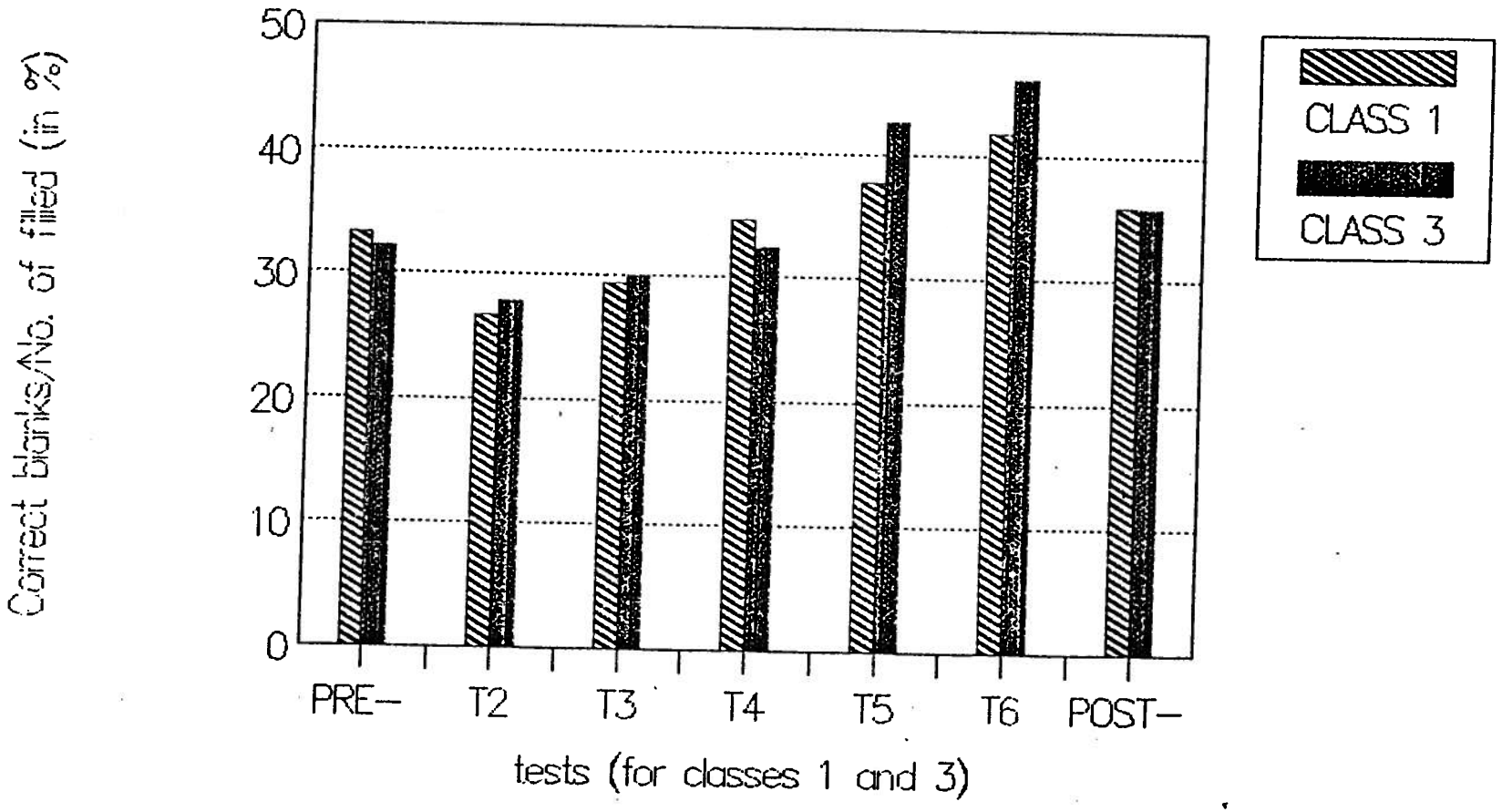


TABLE 22 FOR THE MAIN PROJECT
MEAN SCORES FOR INTRA- AND INTER-SENTENTIAL BLANKS

TEST	LEVEL OF READ-ABIL-ITY	NO. OF WORDS	MEAN SCORES Intra-+Intra- In % Gr 1 Exact Accept	Gr 3 Exact Accept	NO. OF STUDENTS PRESENT In Analysis Gr 1	Gr 3	Actually Gr 1	Gr 3
Pre-	15	327	^15.2 / ^22.2	13.2 / 17.6	13	13	19	20

^ means that the score for this group is higher than for the other group.

T2	14	333	^15.6	10.6	11	13	14	19
T3	15	322	^19.8	15.1	13	13	18	18
T4	15	332	^22.5	18.1	13	11	16	17
T5	13	335	^24.9	23.2	13	13	17	18
T6	12	328	^24.2	21.5	7	8	9	13
Post	15	327	^19.9 / ^28.0	16.5 / 24.6	13	13	14	14

Intra- and Inter-sentential Blanks

N = 13

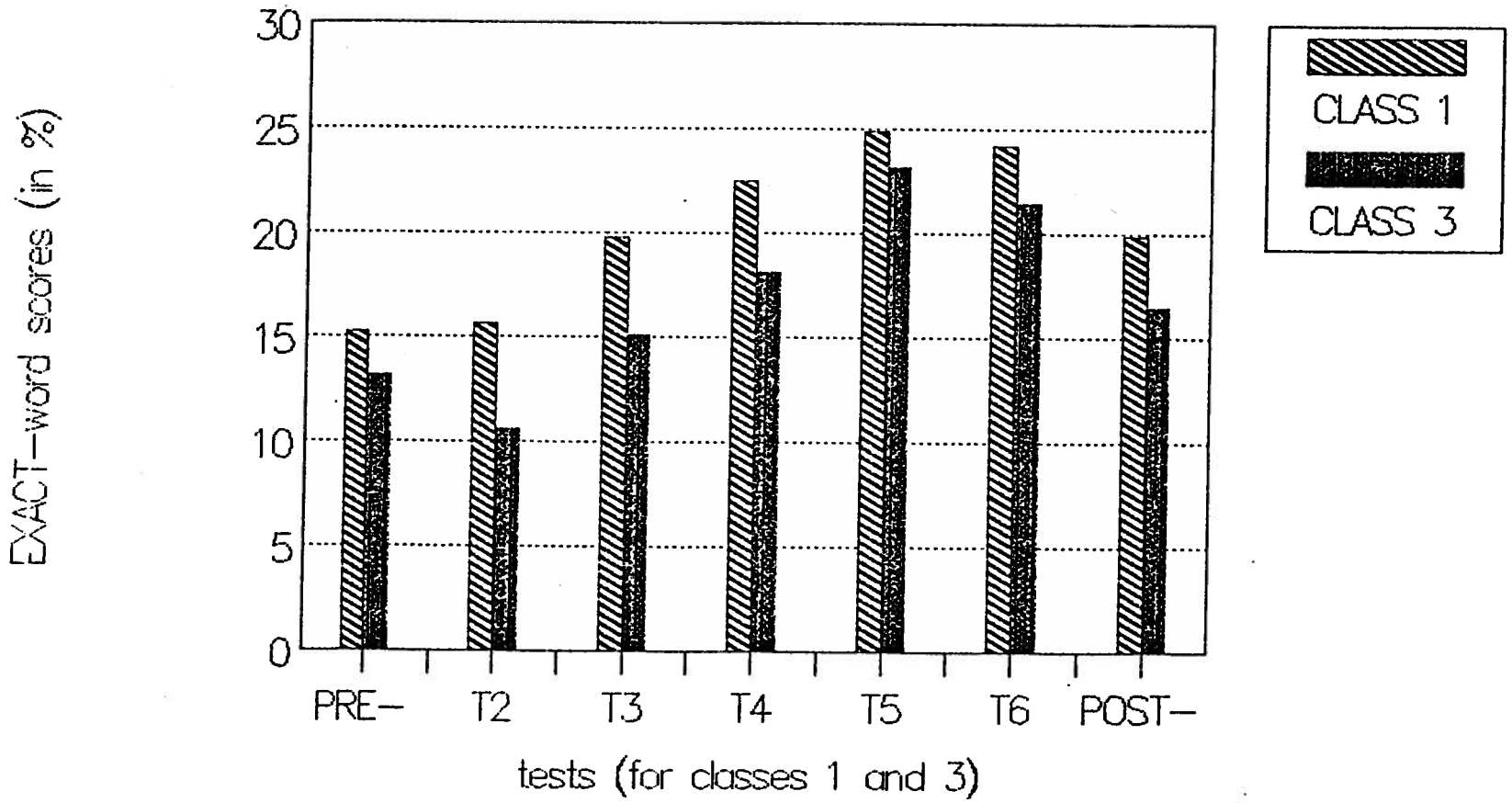


TABLE 23 FOR THE MAIN PROJECT
PRODUCTIVE CONFIDENCE SCORES FOR INTRA- AND INTER-SENTENTIAL BLANKS

PCS

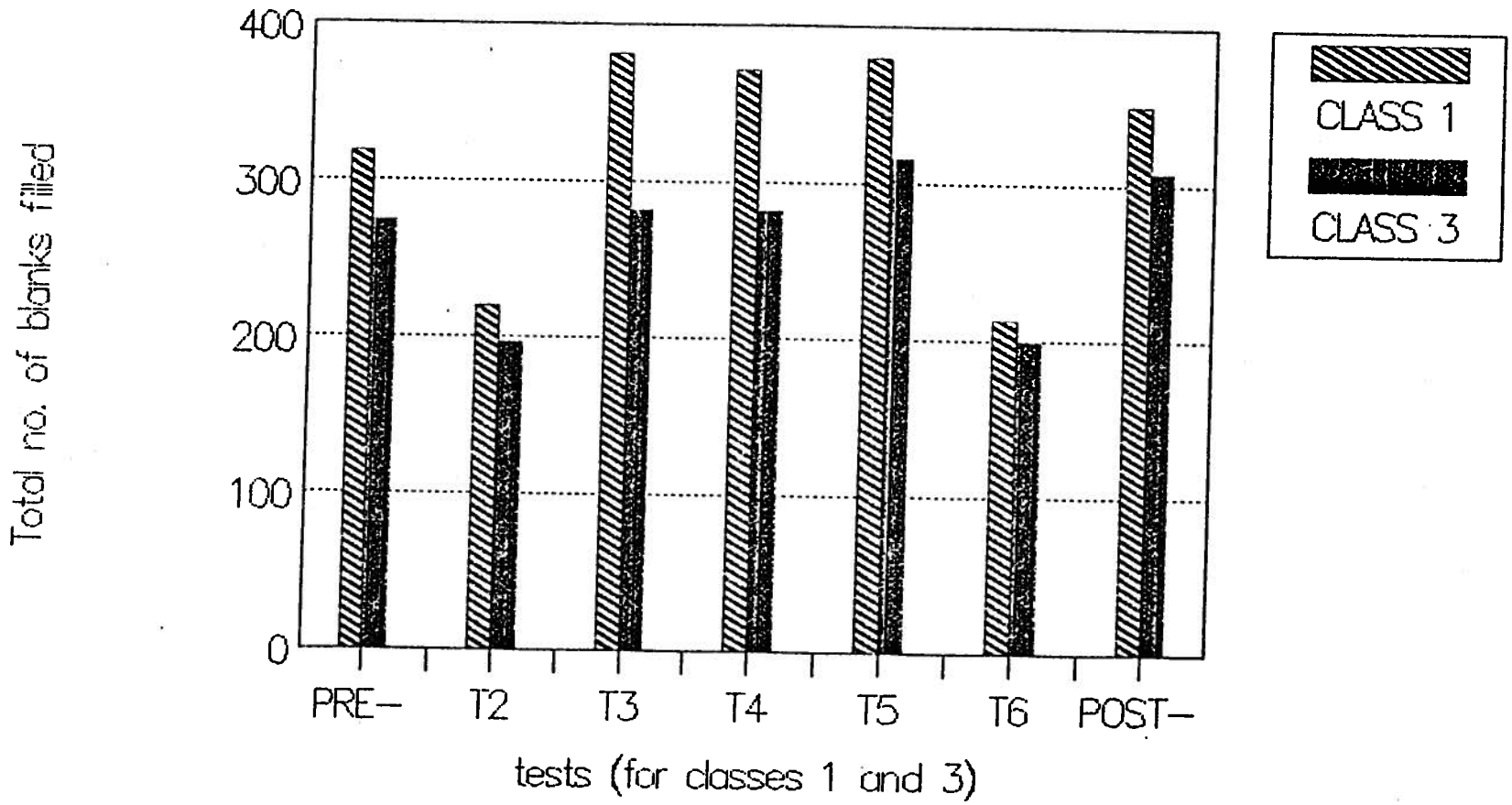
TEST	LEVEL OF READ-ABIL-ITY	NO. OF INTRA-INTER-SENT-ENTIAL BLANKS A	NO. OF STUD-ENTS IN EACH TEST B	TOTAL NO. OF INTRA-INTER-BLANKS AxB= C	TOTAL NO. OF INTRA-INTER-BLANKS FILLED D	% OF BLANKS FILLED TO POSS-IBLE In % D/C= E	TOTAL NO. OF BLANKS FILLED COR-RECTLY F	COR-RECT BLANKS TO NO. OF FILLED In % F/D= G
Pre-	Gr1 15	40	13	520	^318	^61.2	^99	31.1
	Gr3		13	520	274	52.7	86	^31.4

^ means that the score for this group is higher than for the other group.

T2	Gr1 14	30	11	330	220	^66.7	80	^36.4
	Gr3		13	390	196	50.3	69	35.2
T3	Gr1 15	37	13	481	^381	^79.2	^129	33.9
	Gr3		13	481	282	58.6	98	^34.8
T4	Gr1 15	35	13	455	371	^81.5	146	^39.4
	Gr3		11	385	282	73.2	106	37.6
T5	Gr1 13	?37	13	481	^380	^79.0	^163	42.9
	Gr3		13	481	316	65.7	151	^47.8
T6	Gr1 12	?39	7	273	213	^78.1	93	43.7
	Gr3		8	312	199	63.8	98	^49.2
Post	Gr1 15	40	13	520	^350	^67.3	^129	^36.9
	Gr3		13	520	308	59.2	107.5	34.9

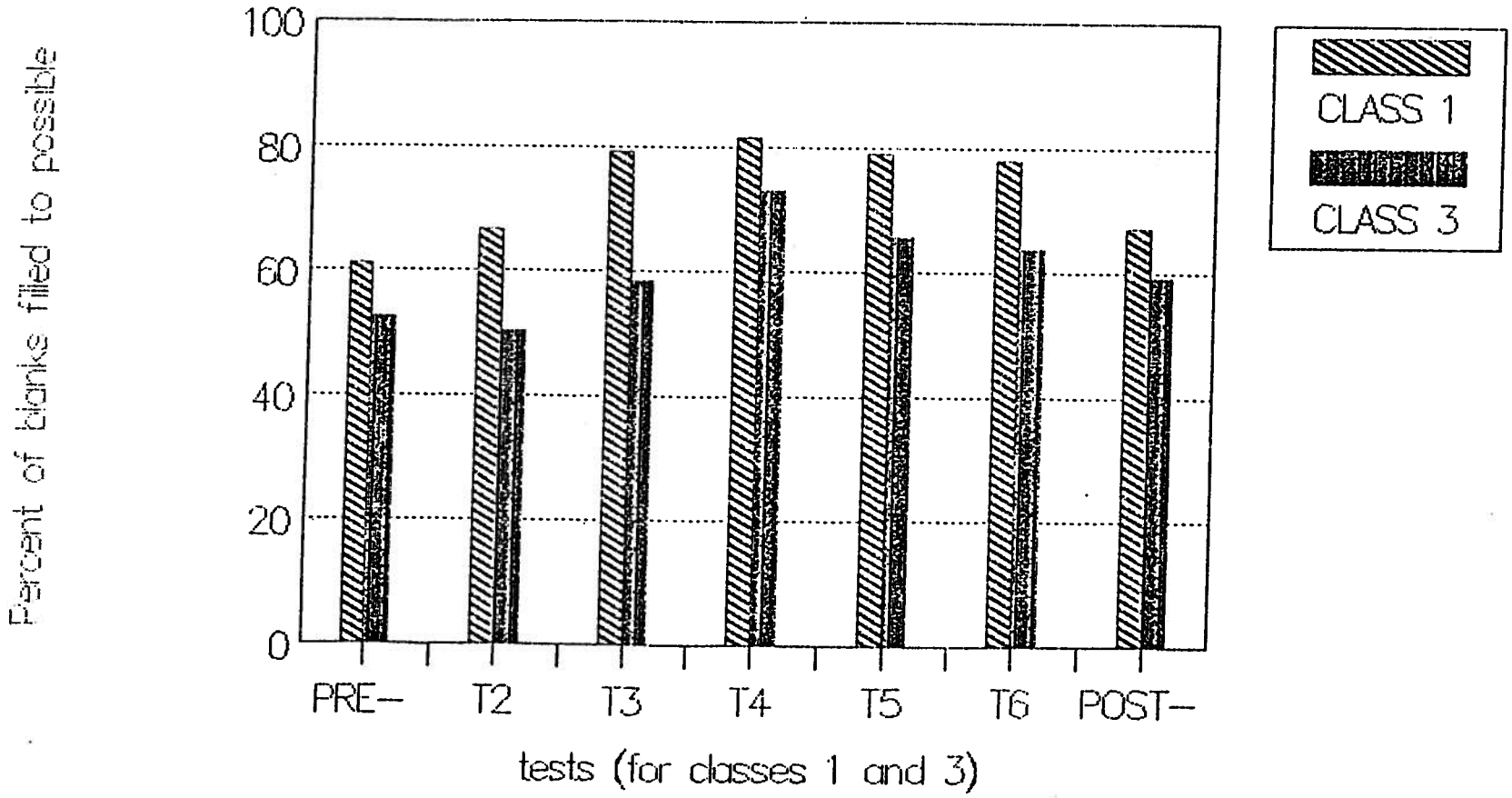
Intra- and Inter-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



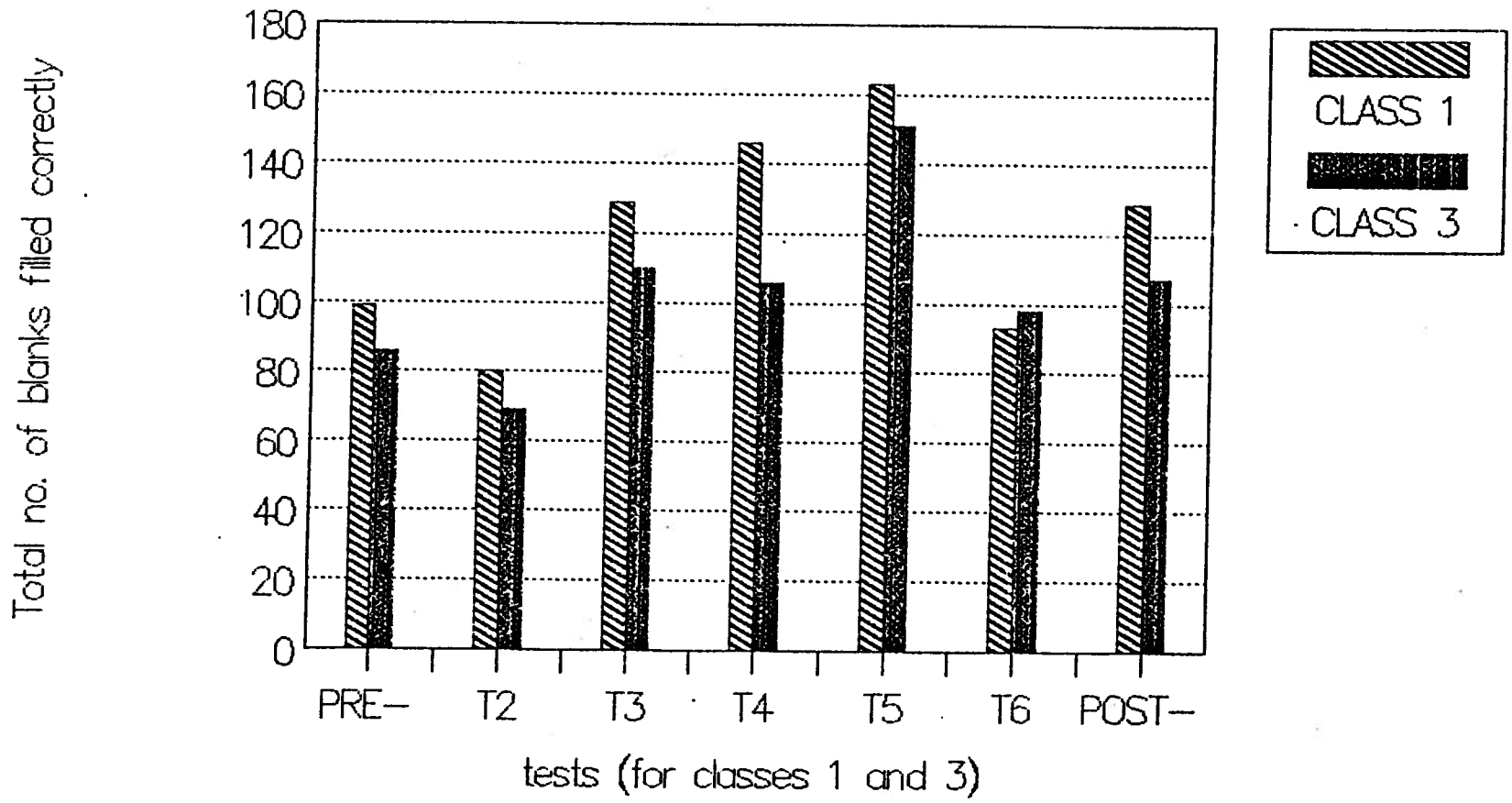
Intra- and Inter-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



Intra- and Inter-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



Intra- and Inter-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)

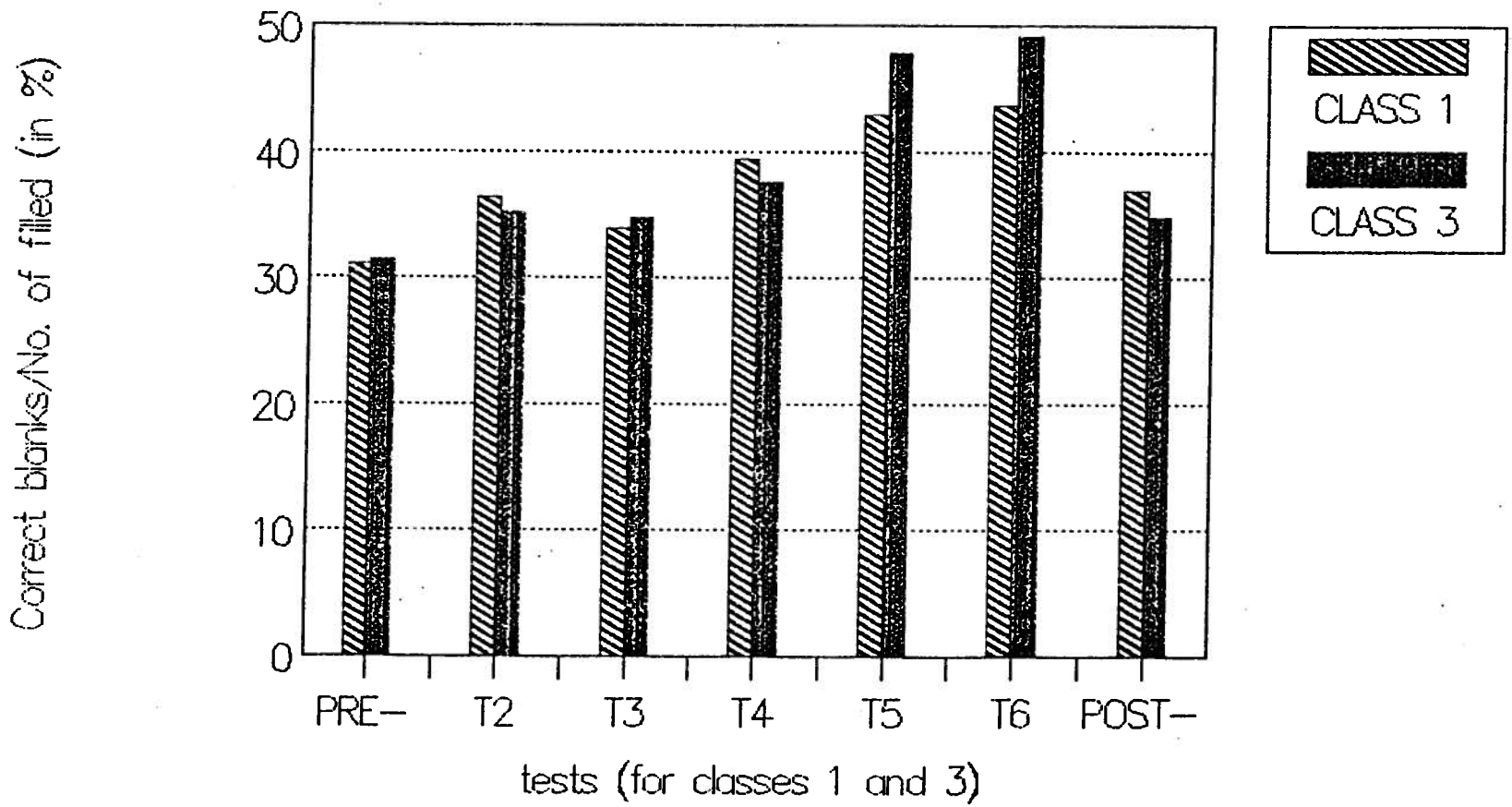


TABLE 24 FOR THE MAIN PROJECT
MEAN SCORES FOR INTRA-SENTENTIAL BLANKS

TEST	LEVEL OF READ-ABIL-ITY	NO. OF WORDS	MEAN SCORES Intra-Blanks In % Gr 1 Exact Accept	Gr 3 Exact Accept	NO. OF STUDENTS PRESENT In Analysis Gr 1	Gr 3	Actually Gr 1	Gr 3
Pre-	15	327	^4.9	4.1	13	13	19	20
			^5.8	4.6				
T2	14	333	^6.8	5.7	11	13	14	19
T3	15	322	^6.9	5.1	13	13	18	18
T4	15	332	^5.7	4.6	13	11	16	17
T5	13	335	^5.2	4.3	13	13	17	18
T6	12	328	6.0	^9.9	7	8	9	13
Post	15	327	8.0	^11.4	13	13	14	14
			9.1	^12.5				

^ means that the score for this group is higher than for the other group.

Intra–sentential Blanks

N = 13

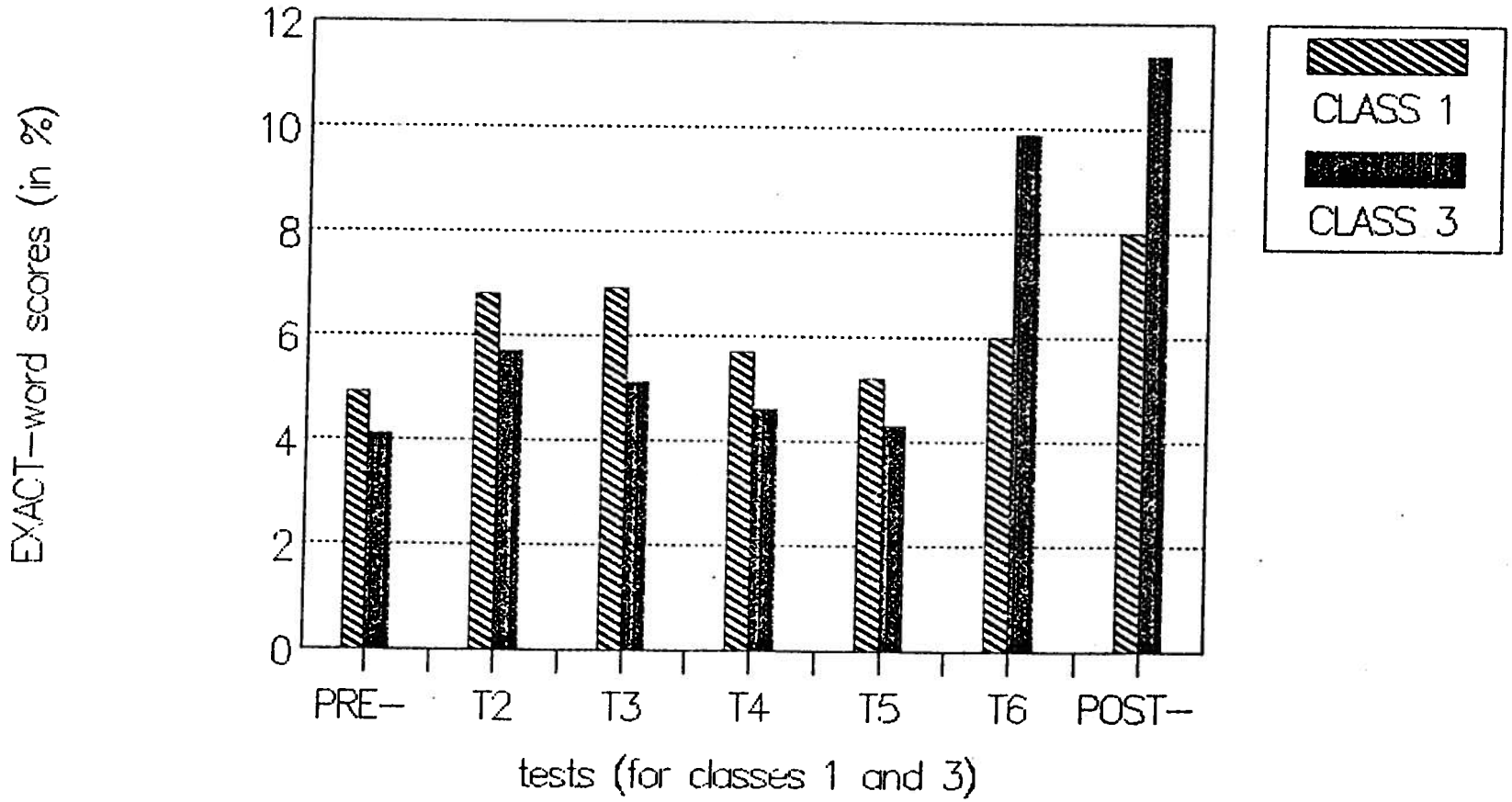


TABLE 25 FOR THE MAIN PROJECT
PRODUCTIVE CONFIDENCE SCORES FOR INTRA-SENTENTIAL BLANKS
PCS

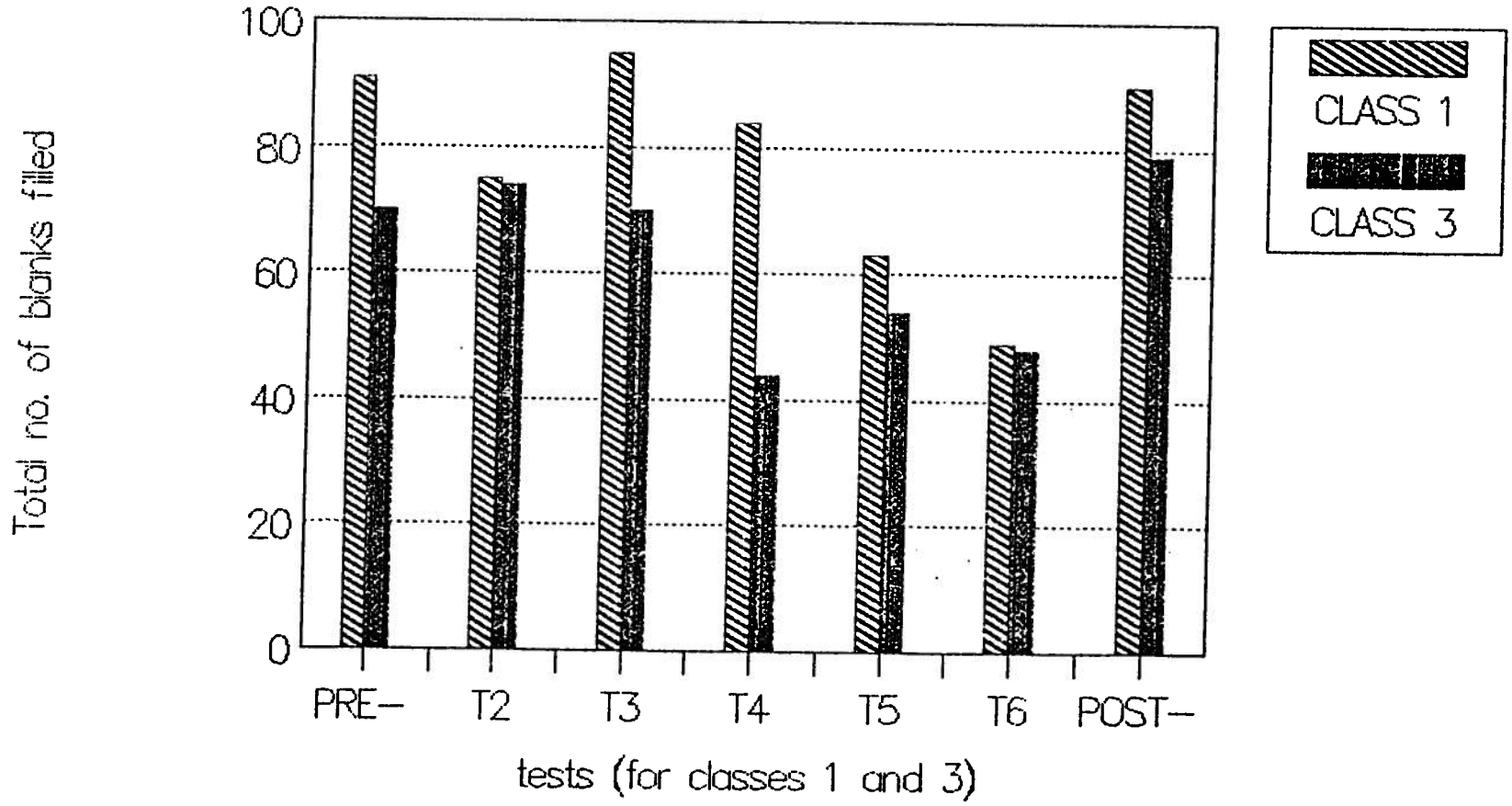
TEST	LEVEL OF READ-ABIL-ITY	NO. OF INTRA-SENT-ENTIAL BLANKS PER TEST	NO. OF STUD-ENTS IN EACH TEST	TOTAL NO. OF INTRA-BLANKS	TOTAL NO. OF INTRA-BLANKS FILLED	% OF BLANKS FILLED TO POSS-IBLE	TOTAL NO. OF BLANKS FILLED COR-RECTLY	COR-RECT BLANKS TO NO. OF FILLED
				AxB=		In % D/C=		In % F/D=
		A	B	C	D	E	F	G
Pre-	Grl 15	9	13	117	^91	^77.8	^32.5	35.7
	Gr3		13	117	70	59.8	29.0	^41.4

^ means that the score for this group is higher than for the other group.

T2	Grl 14	8	11	88	75	^85.2	43	^57.3
	Gr3		13	104	74	71.2	37	50.5
T3	Grl 15	10	13	130	^95	^73.1	^45	^47.4
	Gr3		13	130	70	53.8	33	47.1
T4	Grl 15	6	13	78	84	^95.5	37	44.0
	Gr3		11	66	44	66.7	33	^75.0
T5	Grl 13	7	13	91	^63	^69.2	^35	55.6
	Gr3		13	91	54	59.3	30	55.6
T6	Grl 12	10	7	70	49	^77.8	21	42.9
	Gr3		8	72	48	66.7	30	^62.5
Post	Grl 15	9	13	117	^90	^76.9	^34	37.8
	Gr3		13	117	79	67.5	32.5	^41.1

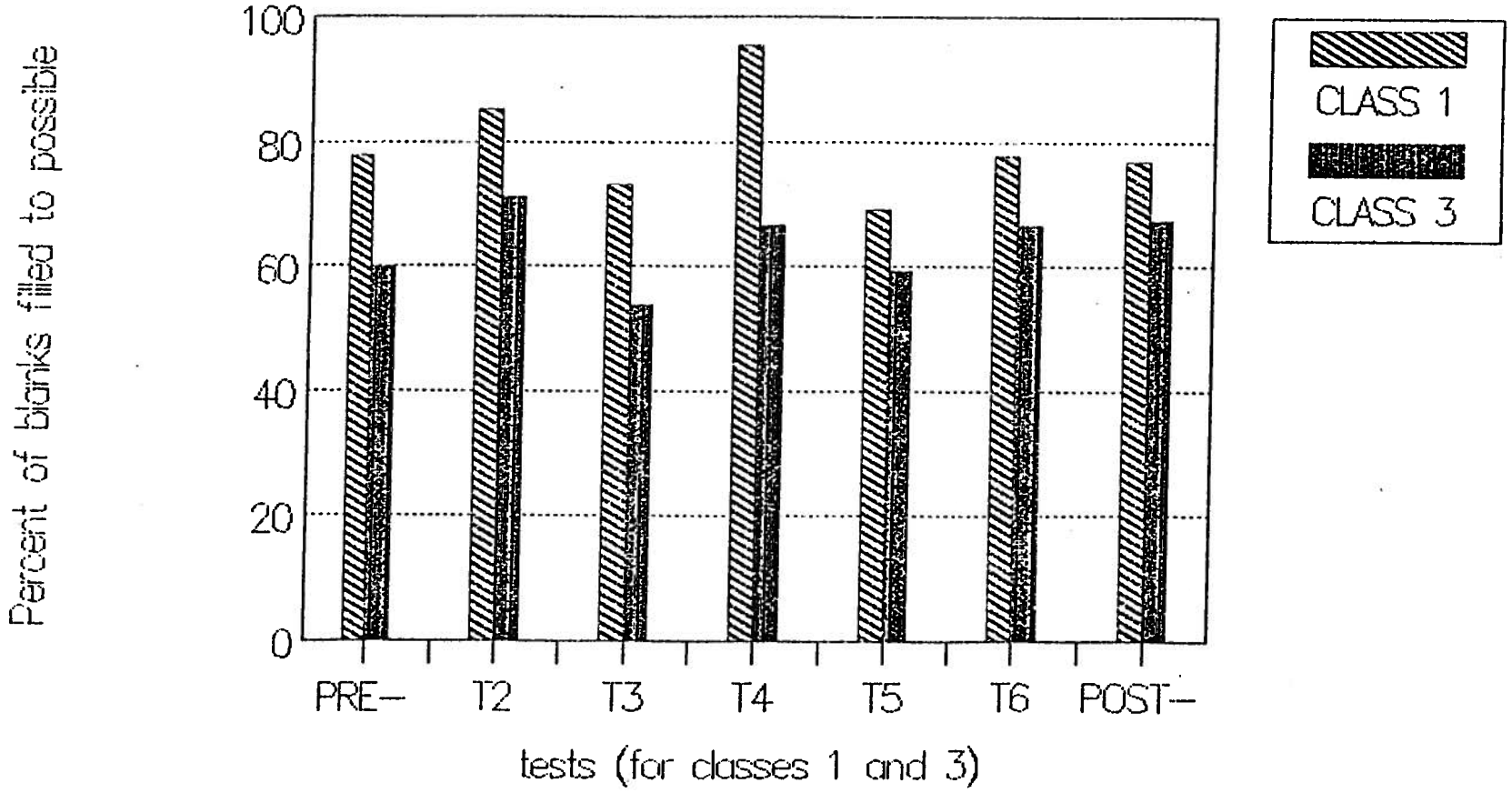
Intra-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



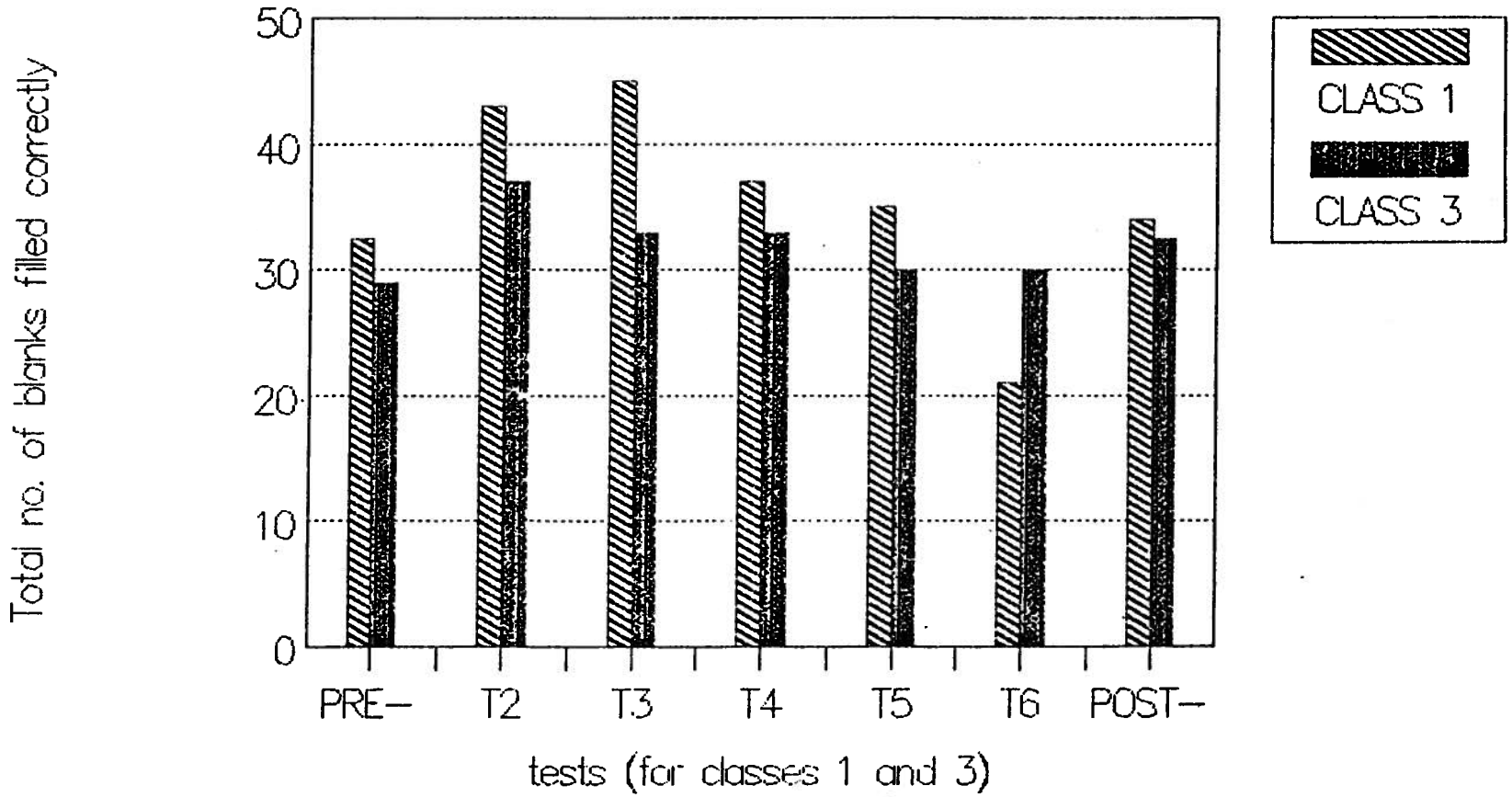
Intra-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



Intra-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



Intra-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)

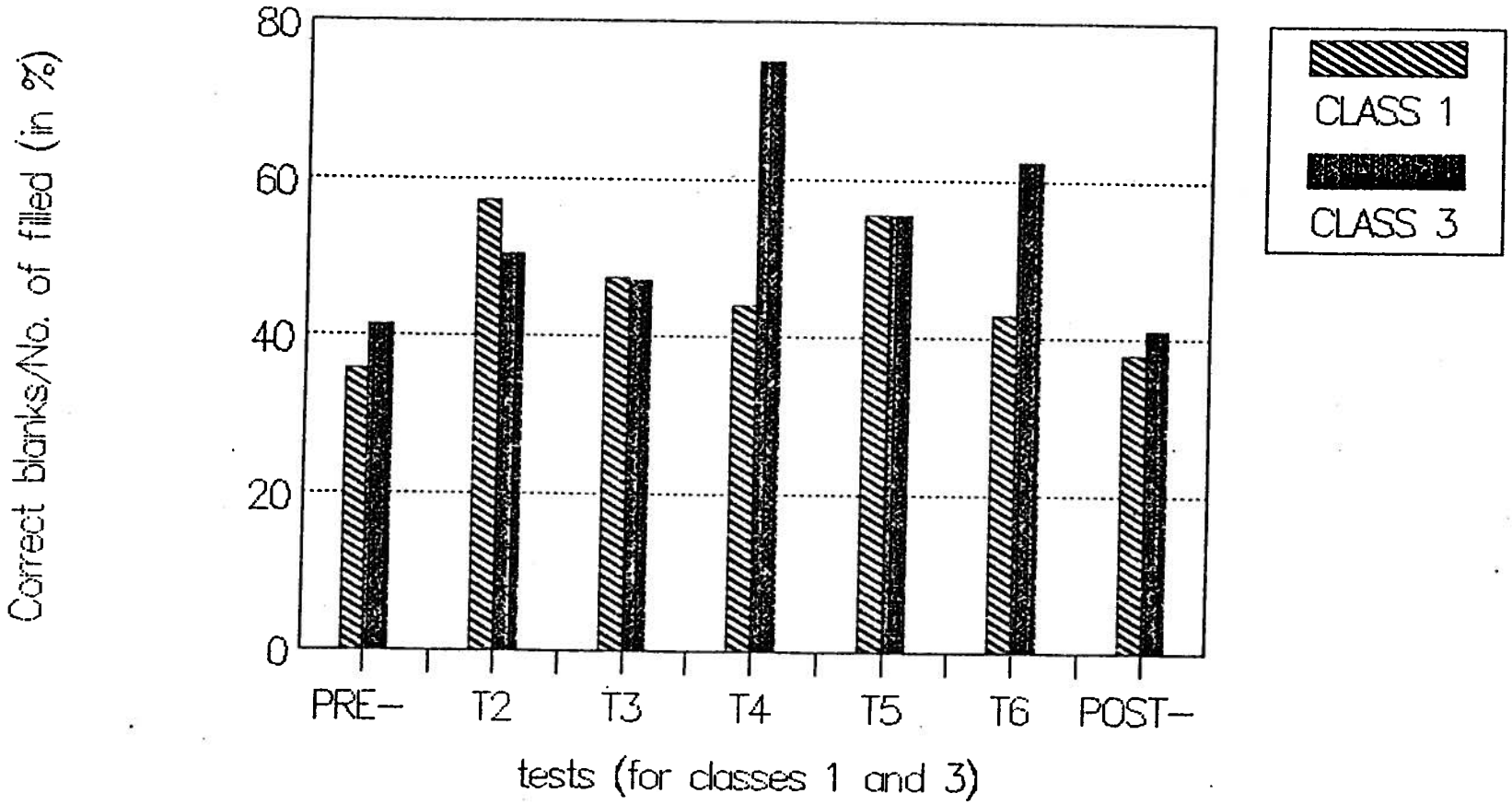


TABLE 26 FOR THE MAIN PROJECT
MEAN SCORES FOR INTER-SENTENTIAL BLANKS

TEST	LEVEL OF READ-ABIL-ITY	NO. OF WORDS	MEAN SCORES Inter-Blanks In % Gr 1 Exact Accept	Gr 3 Exact Accept	NO. OF STUDENTS PRESENT In Analysis Gr 1	Gr 3	Actually Gr 1	Gr 3
Pre-	15	327	^10.1	8.8	13	13	19	20
			^16.4	13.2				

^ means that the score for this group is higher than for the other group.

T2	14	333	^7.7	4.9	11	13	14	19
T3	15	322	^12.9	10.0	13	13	18	18
T4	15	332	^16.8	12.5	13	11	16	17
T5	13	335	^19.5	18.6	13	13	17	18
T6	12	328	^20.6	17.0	7	8	9	13
Post	15	327	^14.6	11.5	13	13	14	14
			^23.2	18.0				

Inter–sentential Blanks

N = 13

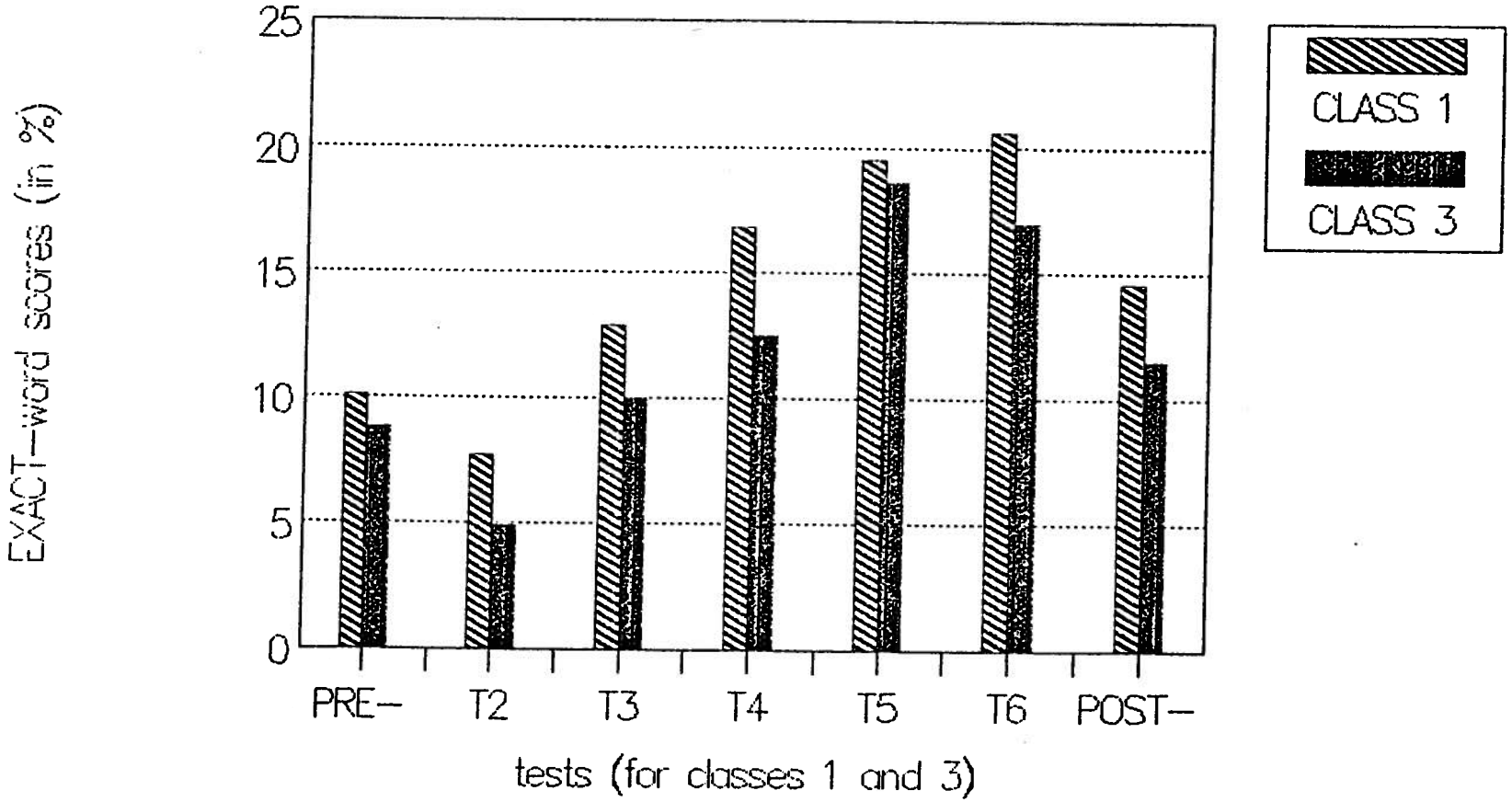


TABLE 27 FOR THE MAIN PROJECT
PRODUCTIVE CONFIDENCE SCORES FOR INTER-SENTENTIAL BLANKS
PCS

TEST	LEVEL OF READ-ABIL-ITY	NO. OF INTER-SENT ENTIAL BLANKS PER TEST A	NO. OF STUD-ENTS IN EACH TEST B	TOTAL NO. OF INTER-BLANKS AxB= C	TOTAL NO. OF INTER-BLANKS FILLED D	% OF BLANKS FILLED TO POSS-IBLE In % D/C= E	TOTAL NO. OF BLANKS FILLED COR-RECTLY F	COR-RECT BLANKS TO NO. OF FILLED In % F/D= G
Pre-	Grl 15	31	13	403	^227	^56.3	^65.5	^28.9
	Gr3		13	403	204	50.6	57	27.9

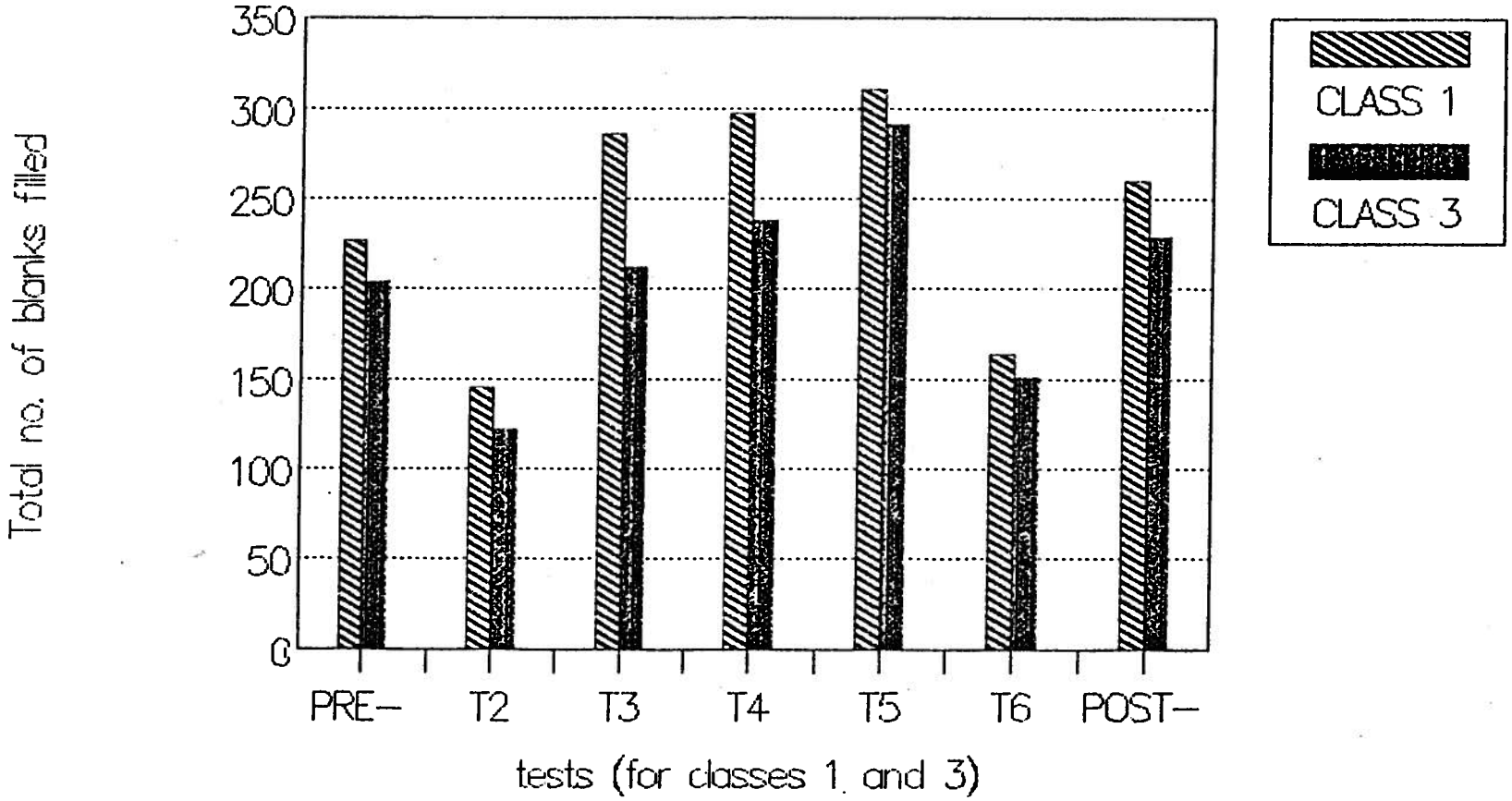
^ means that the score for this group is higher than for the other group.

T2	Grl 14	22	11	242	145	^59.9	37	25.5
	Gr3		13	286	122	42.7	32	^26.2
T3	Grl 15	27	13	351	^286	^81.5	^84	29.4
	Gr3		13	351	212	60.4	65	^30.7
T4	Grl 15	29	13	377	297	^78.8	109	^36.7
	Gr3		11	319	238	74.6	69	29.0
T5	Grl 13	30	13	390	^310	^79.5	^127	41.0
	Gr3		13	390	291	74.6	121	^41.6
T6	Grl 12	?29	7	203	164	^80.8	72	43.9
	Gr3		8	232	151	65.1	68	^45.0

Post	Grl 15	31	13	403	^260	^64.5	^95	^36.5
	Gr3		13	403	229	56.8	75	32.8

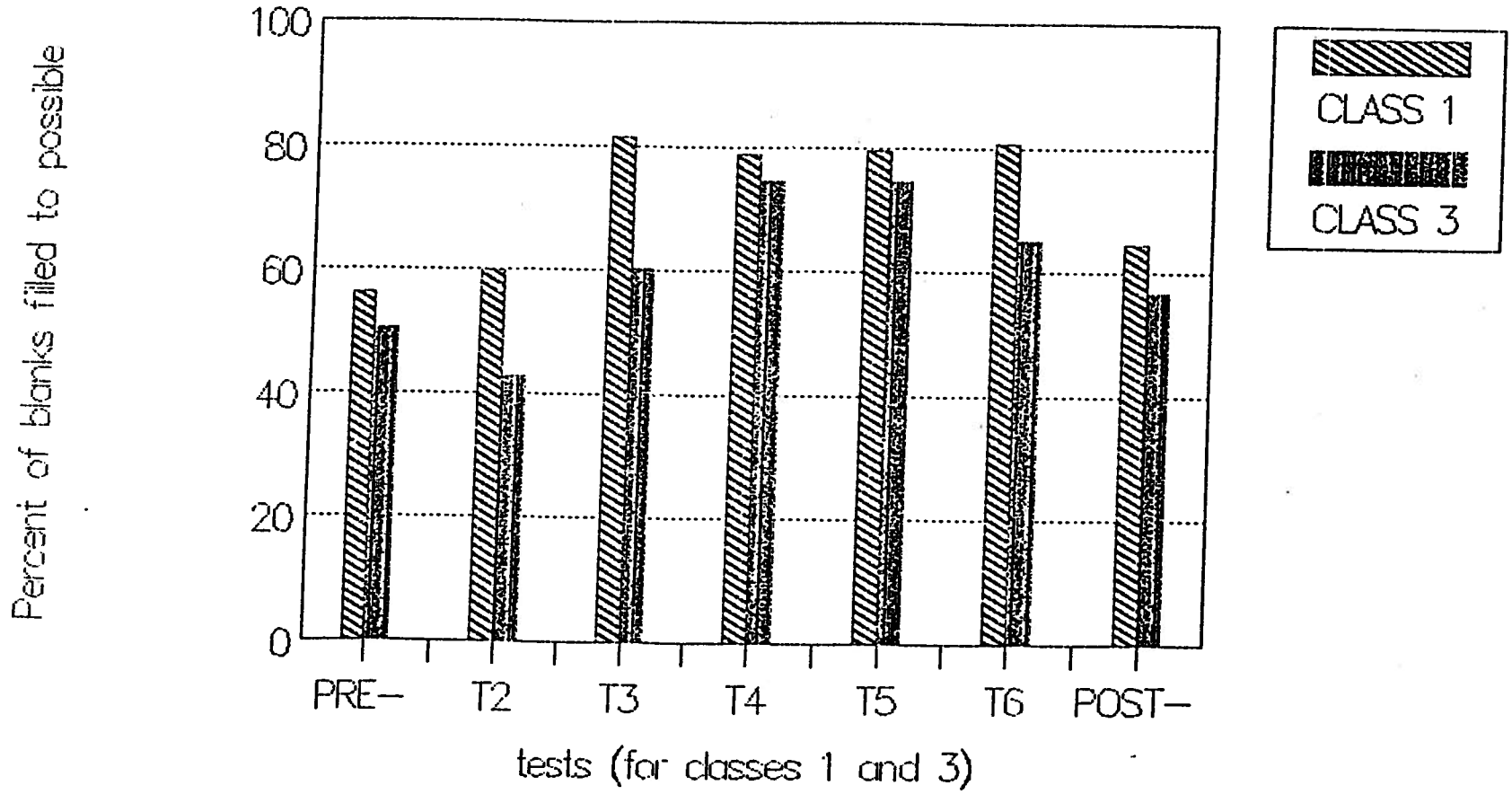
Inter–sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



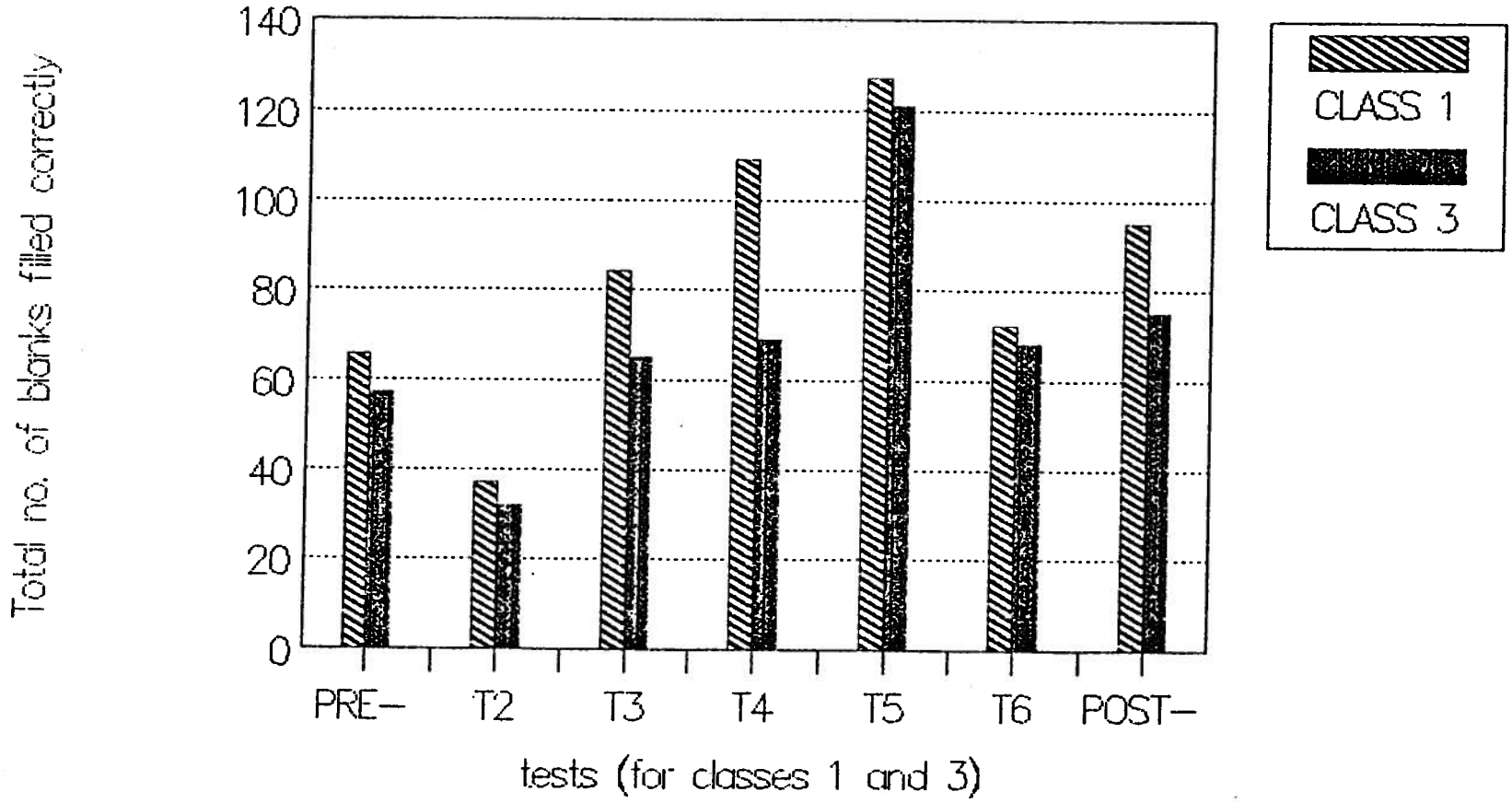
Inter-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



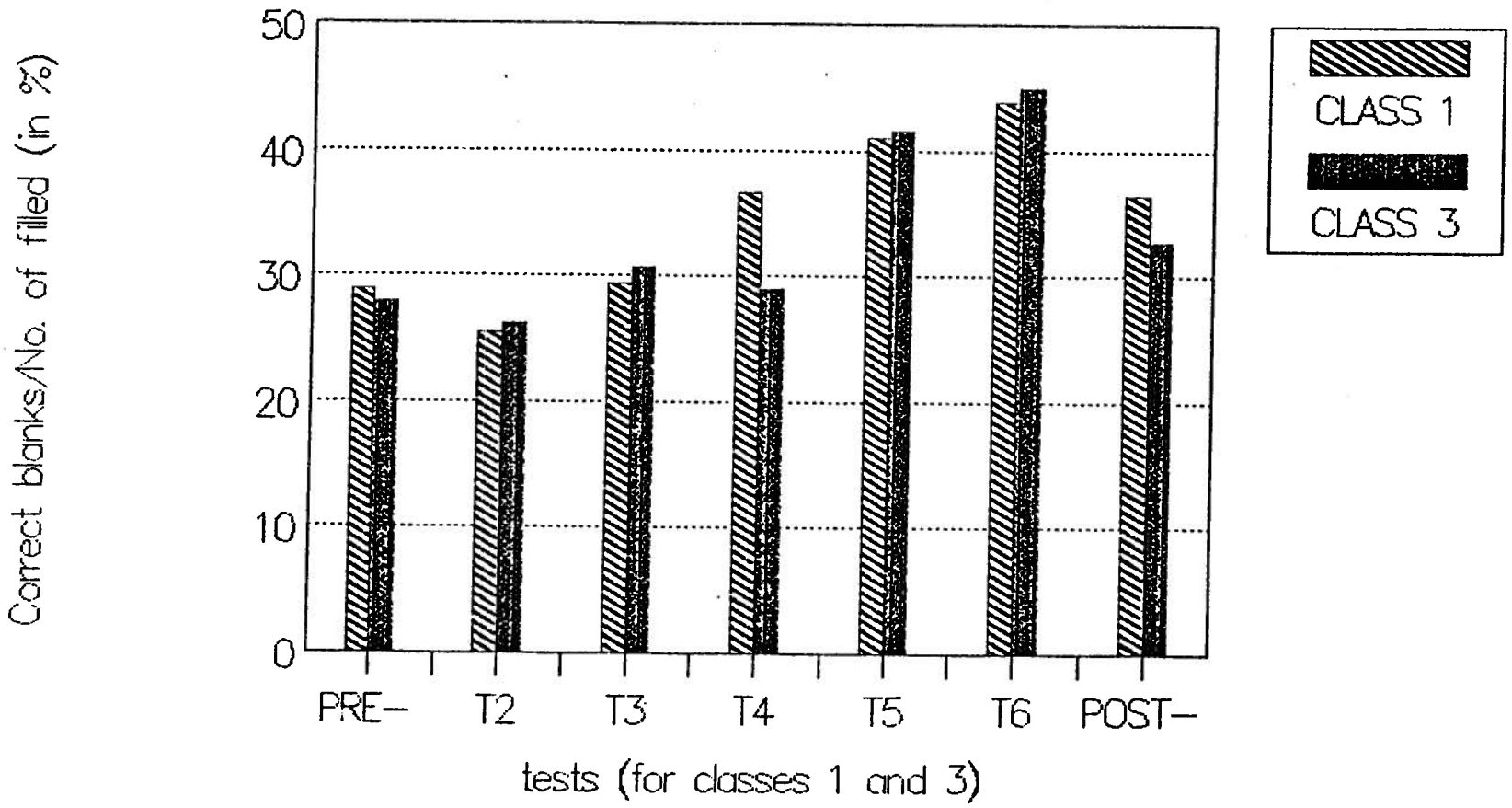
Inter-sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



Inter–sentential Blanks

N=13 (T2N1=11, T4N2=11, T6N1=7,N2=8)



An explanation of the tables and graphs

The above graphs are all very similar and show that the control group did better on the tests than the treatment group. If this were the only fact given, then it could be concluded that the rationalized CCC had no significant effect on the treatment group over and above the effect of the non-color-coded cloze on the control group and therefore the treatment would have to be considered a failure. However, another look at the graphs appears to indicate that there was a tendency for the treatment group to catch up to the control group as long as the crutch of color-coding was available. As the only difference in the tests was the color-coding, the acceleration can be seen to have been caused by the color-coding, if not by the parts of speech themselves. Therefore, it can be said that the color-coding had reached the objective of the research, that is, to help improve cloze scores and to increase the students' awareness of inter-sentential reiterative-word clues.

A closer look

When the inter-sentential blanks were considered by themselves it was seen that both groups had made progress. Interestingly, the increases approximately followed the increase in number of inter-sentential reiterative-word clues. However, as long as the color-coding was present, the treatment group tended to improve more than the control

group in being able to locate and use reiterative-word inter-sentential clues.

Part of that greater improvement can be explained by the fact that the treatment group seemed to do proportionally much worse than the control group on the first practice test, giving the treatment more room to rebound. Actually, all else being equal, there should not have been such a difference in test two, given that the pre-test showed the two groups as being much more equal in proficiency, at least in terms of doing cloze tests. It can be assumed that the color-coding was the cause because it added information that the students had to consider, thus adding an encumbrance, if not confusion. Then, as the students in the treatment group became more familiar with the color-coding they were able to narrow the difference between themselves and those students in the control group. This suggests that those students in the treatment group were not only becoming less confused, but also more confident and able in the use of the color-coding to discover the inter-sentential reiterative words to fill in the cloze blanks. Thus it was thought that another part of the greater improvement of the treatment group could be attributed to the color-coding of the rational cloze.

Four additional points should be made from examining the graphs. First, the main project showed that to some extent students' were able to locate inter-sentential clues, with or without the color-coding as a crutch. This seemed

to validate Chihara and Oller's contention that proficient ESL students do search globally for clues and do use them. Second, both groups tended to improve scores on all blank, intra-/inter-sentential, and inter-sentential analyses on both out-of-50 mean scores and percentage-of- possible mean scores. This suggests that practice with the cloze did and does lead to improvement. Third, there was a ceiling effect to that improvement. Fourth, despite the evidence for the valuable role of color-coding, it is difficult to say that the students were using the parts of speech to help find the clues as to what word to put in the cloze blank. Because the gap between the control and the treatment group appeared to widen in the post-test on inter-sentential blanks when compared to the pre-test difference, it seems that the color-coding had not done as much to make the students sensitive to parts of speech as had the practice by the control group with no special color-coded clues. On the other hand, without the color-coding as a crutch, the treatment group still did seem to improve. The improvement must have come from the same source as did the improvement of the control group. As the pre-test and the practice test were the same, part of the improvement could have come from having done the test before. However, some of the improvement for both groups could have come from the parts of speech, with or without the influence of the color-coding. On the other hand, some of the improvement may have been an illusion as some of the tests had a lower

readability level. Table 9 shows that the readability of tests 2, 5, and 6 are easier than the rest and in some cases the graphs rise in an apparent reflection of this. However, this conclusion is rather tenuous as others of the graphs do not behave in this fashion, possibly due to other influences such as boredom as in test 6, the passage with the easiest readability level. See test 6 on the All 50 Blanks graph where both groups fall, the decrease occurring primarily on the inter-sentential blanks.

To summarize the above points it could be said that both forms of the rational cloze procedure, color-coded or not, were useful as a function of practice. It is interesting and necessary to note, however, that despite all the increases, the mean scores were still quite low, even for cloze scores. No mean score ever went beyond the frustration level. This, of course, could have been a result of the difficulty of the passages.

There is another observation that deserves some special attention. It was an afterthought in the research analysis to use the intra-sentential scores. This was especially so because the focus of the research had been on inter-sentential clues rather than on intra-sentential ones. It was also because it was easier to get total scores on the spreadsheet by first deleting the non-reiterative-word blanks and then the intra-sentential blanks. It would have taken another step to have gone back to the intra-/inter-sentential copy of each of the spreadsheets and deleted the

inter-sentential blanks. Instead, an arithmetic calculation was done later by subtracting the inter-sentential mean scores from the intra-/inter-sentential mean scores, and a graph drawn.

The intra-sentential graph showed that the mean scores were not consistent in improvement. On the first practice test both groups improved on the intra-sentential blanks, but then declined. By test four (the third practice test) the treatment group started to improve while the control declined until test five when the mean scores were about the same. On test six both made gains, but the treatment group made more. Both declined on the post-test, the control group taking the lead once more.

In terms of the number of available intra-sentential blanks the above can be explained in the following way. For test two both groups improved when there were less intra-sentential clues and for test three declined when there were more. After that the control group followed the downs and ups in the number of intra-sentential blanks, while the treatment group continued to improve until test six, the last practice test. The treatment group was not affected very much by the decline in intra-sentential reiterative-word clues, but did, like the control group, react positively to the presence of the greater number of intra-sentential reiterative-word clues, even more so. In the post-test when no color-coding was present both groups declined, with the treatment group falling the most and even

losing its advantage over the control group. It is important to note that on the post-test both groups still had made improvements when compared with what they had done on the pre-test. From the above observations about the intra-sentential blanks, it can be concluded that color-coding appeared to have even a more powerful influence on finding intra-sentential fillers than on finding inter-sentential fillers but there were not enough occurrences of intra-sentential blanks in the passages to be certain, given the somewhat inconsistent nature of the intra-sentential means. It is important to emphasize here that despite the influence of the color-coding on the intra-sentential scores this does not negate its influence on inter-sentential scores.

A statistical look at the data

The above description of the graphs has a certain amount of merit and should be considered carefully. However, statistical methods have been designed and validated over the years. Without them any research can be misleading, even though Dr. Boldt, the statistics advisor to this research project, cautioned that statistics themselves are only one of the tools in understanding the data. When T-tests (reported in Tables 28 and 29 below) and "One Between and One Repeated Measures Factor ANOVA" analyses (see Table 30 for the steps in the program and Tables 32 - 40 for the results) were applied to the data, a different

picture from the graphs emerged. First of all the dependent-variable T-tests indicated that the control and treatment groups were not significantly different on the pre-test. The difference shown on the graph was merely a chance difference according to the T-test. Nor were they significantly different on any of the practice tests except for Test 3, where the difference was in favor of the control group. Even on the post-test there was no significant difference indicated between the two groups. The conclusion is that the rationalized color-coded treatment led to no significant improvement for the treatment group over the control group on the cloze scores.

T-tests (above) done on class 1 comparing the pre-tests and post-tests showed a significant difference indicating that the practice had led to improvement. Meanwhile, no significant differences were found by the T-tests (above) for class 3 from the pre-test to the post-test. This latter finding is contrary to what was interpreted from the graphs. (Somewhat puzzling, however, is a seeming statistical contradiction. If there was no significant difference between class 1 and class 3 on both the pre- and post-tests, how could there be a significant difference between class 1 from pre- to post-test, but not one for class 3? There must have been some data error or a flaw in the interpretation of the statistical findings. At first the answer was thought to have been that dependent variable t-tests were done throughout instead of using independent T-tests when the two

different groups were compared. To check this assumption a statistical program called "Minitab" was used and the mistake was corrected. However, the previous results were confirmed.

The problem was probably that the statistical tests lacked the power to pick up the subtleties in the data. The statistical tests were too conservative given that the sample size available to the researcher was so small. Likely there was a significant difference from the pre- to the post test for the treatment group. The graphs suggested that this was the case. Furthermore, the t-tests had indicated that the groups were not significantly different on the pre- and post-tests from each other and that there had been significant improvement for the control group. Therefore, logically speaking, there must have been a significant improvement for the treatment group from the pre- to post-test.

TABLE 28
T-TESTS FOR THE MAIN PROJECT

Pre-test (Exact-Word Scores)

Class 1 vs Class 3 degrees of freedom = 12

	Mean Diff	SD Diff	T-score	P =
All 50 blanks	1.192	4.294	1.001	0.337
Intra-/inter-blanks	1.000	4.619	0.781	0.450
Inter-blanks	0.654	3.555	0.663	0.520

Test 2 (Exact-Word Scores)

Class 1 vs Class 3 degrees of freedom = 12

	Mean Diff	SD Diff	T-score	P =
All 50 blanks	2.394	5.846	1.477	0.166
Intra-/inter-blanks	2.494	4.891	1.838	0.91
Inter-blanks	1.408	3.330	1.524	0.153

Test 3 (Exact-Word Scores)

Class 1 vs Class 3 degrees of freedom = 12

	Mean Diff	SD Diff	T-score	P =
All 50 blanks	2.769	3.940	2.534	0.026*
Intra-/inter-blanks	2.385	3.664	2.347	0.037*
Inter-blanks	1.462	2.757	1.911	0.080

* Significant at the .05 level

Test 4 (Exact-Word Scores)

Class 1 vs Class 3 degrees of freedom = 12

	Mean Diff	SD Diff	T-score	P =
All 50 blanks	2.348	4.533	1.867	0.086
Intra-/inter-blanks	2.114	4.672	1.631	0.129
Inter-blanks	2.208	3.884	2.050	0.063

Test 5 (Exact-Word Scores)

Class 1 vs Class 3 degrees of freedom = 12

	Mean Diff	SD Diff	T-score	P =
All 50 blanks	0.769	4.850	0.572	0.578
Intra-/inter-blanks	0.846	5.129	0.595	0.563
Inter-blanks	0.462	4.196	0.397	0.699

Test 6 (Exact-Word Scores)

Class 1 vs Class 3 degrees of freedom = 12

	Mean Diff	SD Diff	T-score	P =
All 50 blanks	1.897	7.300	0.937	0.367
Intra-/inter-blanks	1.382	6.277	0.794	0.443
Inter-blanks	1.204	5.134	0.845	0.414

Post-test (Exact-Word Scores)

Class 1 vs Class 3 degrees of freedom = 12

	Mean Diff	SD Diff	T-score	P =
All 50 blanks	1.462	5.387	0.978	0.347
Intra-/inter-blanks	1.654	5.398	1.105	0.291
Inter-blanks	1.538	3.761	1.475	0.166

Class 1 (Exact-Word Scores)

Pre-test vs Post-test degrees of freedom = 12

	Mean Diff	SD Diff	T-Ratios	P =
All 50 blanks	-1.962	2.883	-2.453	0.030*
Intra-/inter-blanks	-2.308	2.983	-2.789	0.016*
Inter-blanks	-2.269	1.867	-4.383	0.001*

* Significant at the .05 level

Class 3 (Exact-Word Scores)

Pre-test vs Post-test degrees of freedom = 12

	Mean Diff	SD Diff	T-Ratios	P =
All 50 blanks	-1.923	4,476	-1.549	0.147
Intra-/inter-blanks	-1.654	3.815	-1.563	0.144
Inter-blanks	-1.385	2.966	-1.683	0.118

TABLE 29
SIGNIFICANT DIFFERENCES
(As determined by t-tests) $P < .05$ $N1 = 13$ $N3 = 13$

	ALL	ERRA	INTER
PRE-TEST: Class 1 vs Class 3			
Exact-word	not sign.	not sign.	not sign.
CLASS 1: Pre-test vs Post-test			
Exact-word	significant	significant	significant
CLASS 3: Pre-test vs Post-test			
Exact-word	not sign.	not sign.	not sign.
POST-TEST: Class 1 vs Class 3			
Exact-word	not sign.	not sign.	not sign.

For the practice tests a "One Between and One Repeated Measures Factor" ANOVA was used. This ANOVA is a more sensitive tool than the T-test and was warranted because the T-tests on the pre-tests showed the treatment and control groups as not significantly different. It was used to determine what effects the subjects, the tests, and an interaction of the two, if any, had on the cloze scores. It was also used to analyze the trend across the five practice tests. This ANOVA was applied to the data which considered a) all the 50 cloze blanks, b) a combination of the intra- and inter-sentential blanks, and c) the inter-sentential

blanks. The ANOVA computer program is given in Table 30 following and the ANOVA summary tables right after.

TABLE 30
STATISTICAL PROGRAM: TREND ANALYSIS -
ONE BETWEEN AND ONE REPEATED MEASURES FACTOR ANOVA

```
$run sas:sas sercom=-log sprint=-a l=howdata
                                  par=;size=4000k
data;
  infile file1;
  input subjects a b score;
proc sort;
  by a b;
proc means mean std n;
  by a b;
  var score;
  title 'rep. meas.';
proc anova;
  class sujjects a b;
  model score= a b subjects(a) a*b b*subjects(a) /
                ss4;
  means b / snk e=b*subjects(a);
  test h=a e=subjects(a);
  test h=b a*b e=b*subjects(a);
  means a / snk e=subjects(a);
  title 'rep. meas.';
proc glm;
  class subjects a b;
  model score = a b subjects(a) a*b b*subjects(a) /
                ss4;
contrast 'b linear' b -2 -1 0 1 2 / e=subjects (a);
contrast 'b quadratic' b 2 -1 -2 -1 2 / e=subjects(a);
contrast 'b cubic' b -1 2 0 -2 1 / e=subjects(a);
title 'trend anal.';
```

TABLE 31
DATA COLLECTION TABLE FOR ANOVA

A (GROUPS)	B (TESTS)					
	Subjects	Test 2	Test 3	Test 4	Test 5	Test 6
Class 1	1. JNK					
	2. DAV					
	3. APR					
	4. ABC					
	5. JPN					
	6. BOX					
	7. MAT					
	8. USA					
	9. MCN					
	10. TAK					
	11. YAS					
	12. SSK					
	13. ABC					
Class 3	14. TN					
	15. TM					
	16. MM					
	17. TM					
	18. HN					
	19. MW					
	20. GST					
	21. MM					
	22. HG					
	23. HO					
	24. MI					
	25. TI					
	26. NN					

Note: A = Group, B = Test, variables used in ANOVA program.

TABLE 32
SUMMARY TABLE: ONE BETWEEN-GROUPS FACTOR AND ONE REPEATED MEASURES FACTOR
FOR ALL 50 BLANKS

Source	Sum of squares	Degrees of freedom	Mean square	F
Between subjects				
A	134.64	a-1= 1	134.64	4.72*
S(A)	684.69	a(n-1)= 24		28.53
Within subjects				
B	668.92	b-1= 4		18.51*
AB	15.51	(a-1)(b-1)= 4		0.43
B x S(A)	867.35	a(n-1)(b-1)= 96	9.03	
TOTAL	2371.11	abn-1=129		

* Statistical significance at the .05 level
Result 1: There was a significant difference between subjects, i.e. between the control and treatment groups.
Result 2: There was a significant diference within subjects, i.e. between some tests.

TABLE 33
SUMMARY TABLE: ONE BETWEEN-GROUPS FACTOR AND ONE REPEATED MEASURES FACTOR
FOR ALL INTRA- AND INTER-SENTENTIAL BLANKS

Source	Sum of squares	Degrees of freedom	Mean square	F
Between subjects				
A	110.51	a-1= 1	110.52	4.87*
S(A)	545.12	a(n-1)= 24		22.71
Within subjects				
B	504.51	b-1= 4		16.50*
AB	12.98	(a-1)(b-1)= 4		0.42
B x S(A)	733.86	a(n-1)(b-1)= 96	7.64	
TOTAL	1906.98	abn-1=129		

* Statistical significance at the .05 level
Result 1: There was a significant difference between subjects, i.e. between the control and treatment groups.
Result 2: There was a significant diference within subjects, i.e. between some tests.

TABLE 34
SUMMARY TABLE: ONE BETWEEN-GROUPS FACTOR AND ONE REPEATED MEASURES FACTOR FOR INTER-SENTENTIAL BLANKS

Source	Sum of squares	Degrees of freedom	Mean square	F
Between subjects				
A	59.10	a-1= 1	59.10	4.88*
S(A)	290.77	a(n-1)= 24		12.12
Within subjects				
B	611.58	b-1= 4		31.59*
AB	10.15	(a-1)(b-1)= 4		0.52
B x S(A)	464.64	a(n-1)(b-1)= 96	4.84	
TOTAL	1436.24	abn-1=129		

* Statistical significance at the .05 level

Result 1: There was a significant difference between subjects, i.e. between the control and treatment groups.

Result 2: There was a significant diference within subjects, i.e. between some tests.

TABLE 35A
STUDENT-NEWMAN-KEULS TEST FOR VARIABLE SCORE (A)
FOR ALL 50 BLANKS

This test controls the type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses

Alpha = 0.05 DF = 96 MSE = 9.03

Number of Means	2	3	4	5
Critical Range	1.65	1.98	2.18	2.32

GROUPING	MEAN	NUMBER	B (TEST)	DIFFERENCE
A	13.69	26	6	
A				Not Signif.
A	13.38	26	5	
A				Not Signif.
A	12.52	26	4	
				Significant
B	9.85	26	3	
				Significant
C	7.82	26	2	

* Means with the same letter are significantly different.
Results: When the scores of class 1 and class 3 were considered together, from test 2 to test three, and from test 3 to test 4 there was significant improvement.

TABLE 35B
STUDENT-NEWMAN-KEULS TEST FOR VARIABLE SCORE (B)
FOR ALL 50 BLANKS

This test controls the type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses

Alpha = 0.05 DF = 24 MSE = 28.53

Number of Means	2
Critical Range	1.93

GROUPING	MEAN	NUMBER	A (Group)	DIFFERENCE
A	12.47	65	1	
				Significant
B	10.43	65	3	

* Means with the same letter are significantly different.
Results: When class 1 and class 3 were compared on the total of all there score for the practice tests, there was a significant difference, with class 1, the control group getting the higher scores.

TABLE 36A
STUDENT-NEWMAN-KEULS TEST FOR VARIABLE SCORE (A)
FOR INTRA- AND INTER-SENTENTIAL BLANKS

This test controls the type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses

Alpha = 0.05 DF = 96 MSE = 7.644

Number of Means	2	3	4	5
Critical Range	1.52	1.83	2.00	2.13

GROUPING		MEAN	NUMBER	B (TEST)	DIFFERENCE
	A	12.04	26	5	
	A				Not Signif.
B	A	11.41	26	6	
B					Not Signif.
B	C	10.17	26	4	
	C				Not Signif.
	C	8.73	26	3	
					Significant
	D	6.55	26	2	

* Means with the same letter are significantly different.
Results: When the scores of class 1 and class 3 were considered together, from test 2 to test three there was significant improvement.

TABLE 36B STUDENT-NEWMAN-KEULS TEST FOR VARIABLE SCORE (B)
FOR INTRA- AND INTER-SENTENTIAL BLANKS

This test controls the type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses

Alpha = 0.05 DF = 24 MSE = 28.53

Number of Means	2
Critical Range	1.93

GROUPING	MEAN	NUMBER	A (Group)	DIFFERENCE
A	10.70	65	1	
				Significant
B	8.86	65	3	

* Means with the same letter are significantly different.
Results: When class 1 and class 3 were compared on the total of all there score for the practice tests, there was a significant difference, with class 1, the control group getting the higher scores.

TABLE 37A
STUDENT-NEWMAN-KEULS TEST FOR VARIABLE SCORE (A)
FOR INTER-SENTENTIAL BLANKS

This test controls the type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses.

Alpha = 0.05 DF = 96 MSE = 4.84

Number of Means	2	3	4	5
Critical Range	1.21	1.45	1.60	1.70

GROUPING	MEAN	NUMBER	B (TEST)	DIFFERENCE
A	9.54	26	5	
				Significant
B	8.01	26	6	
B				Not Signif.
B	7.28	26	4	
				Significant
C	5.73	26	3	
				Significant
D	3.17	26	2	

* Means with the same letter are significantly different.
Results: When the scores of class 1 and class 3 were considered together, from test 2 to test three there was significant improvement. From test 5 to 6 there was a significant decline.

TABLE 37B
STUDENT-NEWMAN-KEULS TEST FOR VARIABLE SCORE (B)
FOR INTER-SENTENTIAL BLANKS

This test controls the type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses.

Alpha = 0.05 DF = 24 MSE = 12.12

Number of Means	2
Critical Range	1.26

GROUPING	MEAN	NUMBER	A (Group)	DIFFERENCE
A	7.42	65	1	
				Significant
B	6.07	65	3	

* Means with the same letter are significantly different.
Results: When class 1 and class 3 were compared on the total of all there score for the practice tests, there was a significant difference, with class 1, the control group getting the higher scores.

TABLE 38
GENERAL LINEAR MODELS PROCEDURE FOR ALL 50 BLANKS

Test of hypotheses using the type iv MS for subjects (A) as an error term.

CONTRAST	DF	SS	F VALUE	PR > F	
Linear	1	608.88	21.34	0.0001	Significant
Quadratic	1	51.26	1.80	0.1926	Not sign.
Cubic	1	3.71	0.13	0.7215	Not sign.

Results: For the linear contrast the F Value is higher than 2.0 and the Probality is less than .05, so there is a linear tendency of improvement from test to test.

TABLE 39
GENERAL LINEAR MODELS PROCEDURE
FOR INTRA- AND INTER-SENTENTIAL BLANKS

Test of hypotheses using the Type IV MS for subjects (A) as an error term.

CONTRAST	DF	SS	F VALUE	PR > F	
Linear	1	440.13	19.38	0.0002	Significant
Quadratic	1	50.13	2.21	0.1504	Not sign.
Cubic	1	8.09	0.36	0.5562	Not sign.

Results: For the linear contrast the F Value is higher than 2.0 and the Probality is less than .05, so there is a linear tendency of improvement from test to test.

TABLE 40
GENERAL LINEAR MODELS PROCEDURE
FOR INTER-SENTENTIAL BLANKS

Test of hypotheses using the type iv MS for subjects (A) as an error term.

CONTRAST	DF	SS	F VALUE	PR > F	
Linear	1	473.04	39.04	0.0001	Significant
Quadratic	1	104.14	8.60	0.0073	Significant
Cubic	1	20.02	1.65	0.2109	Not sign.

Results: For the linear contrast the F Value is higher than 2.0 and the Probality is less than .05, so there is a linear tendency of improvement from test to test. There is a slight quadratic trend.

To summarize the ANOVA results for the five practice tests it can be seen that there was, a) a significant difference between the two classes, b) some significant differences between earlier tests for both classes when their scores were pooled, and that c) there were no interactive effects of the students and tests. The ANOVA also showed that, d) the trends of the tests scores were linear, i.e there was generally steady improvement from practice test to practice test with the exception of a quadratic tendency in the inter-sentential analysis results. This quadratic tendency by definition takes precedence over the linear trend but the much higher significance of the linear trend suggests that despite the quadratic downturn in the inter-sentential results, the general overall direction of the scores was upwards.

Point (a): A significant difference between classes

Point (a) above is interesting but not very helpful in terms of the research question. The ANOVA does not illuminate the fact, like the graphs do, that the treatment group did poorly at first and then improved. Most likely the initial drop while the treatment group was getting used to the color-coding is what caused the significant difference between the two classes. When compared to the T-test, the ANOVA possibly overstates the significant difference between the groups, being that the T-test stated that only test 3 was significantly different.

Point (b): Some significant differences between tests

Point (b) about the differences between tests for all the students taken together is not very helpful as this research project is more interested in the groups compared to each other. The graphs appear to clearly show which groups did better on which tests, the T-tests showing which differences were real and which probably were by chance. In fact, after looking at the graphs, the T-tests and the ANOVA, there was a lot of "noise" as Dr. Boldt referred to the ambiguity in the information generated by the research design.

Point (c): No interactive effects of students and tests

Point (c) is the most interesting, revealing, and disappointing as far as those people who support color-coded cloze procedure are concerned. If the rationalized CCC had been really effective, then there would have been something in the tests that interacted with something within the subjects to create a new dynamic which was different from both the tests and the students. Perhaps the color-coding would have sparked an understanding of the cloze exercise which would have generated motivation to get even more involved in the process of finding inter-sentential clues. to fill in the cloze blanks.

Point (d): Linear trend given by the scores of the practice tests

Point (d) is encouraging for the cloze procedure in that there was benefit gained from the practice. The scores were never above the frustration level, but the students were headed in the right direction. The exception was in the last practice test when the inter-sentential results declined and the gap between the treatment group and the control group increased although not significantly. For the inter-sentential analysis there was also a slight tendency of the trend to be quadratic. This quadratic tendency is shown on the graphs and in the statistics as a decrease in the scores from tests 5 to 6 as far as the inter-sentential blanks were concerned. The downturn suggests that the ceiling of accomplishment had been reached for both groups by test 5 in finding inter-sentential reiterative-word clues. It should be pointed out here, however, that for practice test 6 the attendance was very low for both the control and the treatment group. Only seven students in the control group and eight students in the treatment group took the test. The others had to go on field trips.

So far in this discussion of the different ways of analyzing the data, exact-word scores have been concentrated on. Acceptable-word scores should be talked about because they were discussed in the review of the literature. Indeed, however, the discussion will be short because in

terms of the present research results they did not improve the effects of the rationalized CCC. They only widened the differences and brought in more error from assigning points to words that may or may not have been acceptable.

The Hypotheses

Hypothesis 1

On the practice tests there will be no significant difference between the treatment group which has trained using the color-code cloze and the control groups which have trained on either the non-colored colored-cloze, the colored-blanks only, or the randomly-colored cloze practice tests.

Result 1

According to the data as analyzed by the T-tests and ANOVA the above null hypothesis was not rejected.

Hypothesis 2

On the post-test there will be no significant difference between the treatment group which has trained using the color-coded cloze and the control groups which have trained on either the non-colored colored-cloze, the colored-blanks only, or the randomly-colored cloze practice tests.

Result 2

According to t-tests there were no significant differences, so the null hypothesis was not rejected.

Hypothesis 3

On the post-test there will be no significant difference on confidence scores between the treatment group which has trained using the color-code cloze and the control groups.

Result 3

Raw data was kept and informally compared through the use of graphs. These graphs followed similar patterns to the mean score data. No significance was suggested, so again the null hypothesis could not be rejected.

Hypothesis 4

On the post-test there will be no significant difference in productive confidence scores between the treatment group which has trained using the color-code cloze and the control groups.

Result 4

From the statistical data it appears that there were no significant differences between the control group which used the non-colored rationalized cloze procedure and the treatment group which used the color-coded version. This was the case for the practice tests and the post test. Therefore, the null hypotheses could not be rejected.

As is typically the case when the null hypothesis is not rejected it does not mean that the treatment failed. It just means that it was not proved to be successful, in which case more research was suggested. The fact that both groups improved from pre-test to post-test was encouraging and supported a futher look within the test results and in future research projects. Therefore, immediately following is a look at a) the statistical design of the present research, b) information taken from the post-session questionnaire, and c) the confidence and productive confidence data. In Chapter Five there are some suggestions future research designs that are intended to address some of the questions raised in the present research.

Problems with the present research design

Having looked at a number of data analyses it can be seen that the results of the research are not very clear. There was a lot of noise created because the sampling technique did not choose the students randomly. The differences on the graphs could have been chance differences, statistically different, or part of each. Certainly, given the weak effect or even the inconclusive results of the rationalized CCC treatment, and combining the burdens of the expense and time involved in color-coding the parts of speech, there is no way one could justify going to the trouble of color-coding cloze passages for classroom use.

Hope given by the questionnaire

Yet, there are some things about the present research which should keep the rationalized CCC alive for at least a short time. First, in the questionnaire (please refer to Table 41 below) given after all the tests had been written the majority of the students in the treatment group indicated that although they did not like cloze procedure they would prefer the color-coded form. Also they reported that they felt that they had learned something from the cloze exercises. Furthermore, the treatment group increased the number of guesses they made and increased on their productive confidence scores as indicated in the graphs above. Finally, the students reported that they looked for clues inter-sententially as the clues appeared before or after the cloze the cloze blank in question.

TABLE 41
POST-SESSION QUESTIONNAIRE

	Class 1 (N = 14) Yes	Class 1 (N = 14) No	Class 3 (N = 15) Yes	Class 3 (N = 15) No
1. Cloze experience in				
a) Japan: 1	13		2	13
b) Canada:	1	13	1	14
Enjoyed?		3	0	3
2.1 Any difficulties?	13	1	14	1
2.2 More difficult				
project beginning:	7		11	
project middle:	3		2	
project end:	4		4	
2.3 Easiest				
project beginning:	2		3	
project middle:	4		10	
project end:	8		1	
2.4 Gain confidence?	5	8	8	7
2.5 Problems seeing words?	7	7	10	5
2.6 Improved guessing?	6	8	8	7
2.7 Looked				
a) within sentence:	14	0	15	0
b) before sentence:	12	2	13	1
c) after sentence:	12	2	11	2
Guessed:	13	0	12	2
Did something else:	3	10	1	13
2. Want to do cloze again:	3	11	5	10
3.1 Used color-coded cloze?			12	3
3.2 CCC parts of speech helpful?			13	2
3.3 CCC parts of speech made passages more difficult?			2	13
a) passages 2 and 3?				
b) passage 4?			1	
c) passages 5 and 6?				

3.4 CCC parts of speech made passages easier?	13	2
a) passages 2 and 3?	6	
b) passage 4?	5	
c) passages 5 and 6?	2	
3.5 CCC helped find clues		
a) within sentence	11	
b) before sentence	12	
c) after sentence	10	
of the blank?.		
3.6. CCC helped?	7	
3.7. Type of cloze preferred in the future:		
a) non-colored	1	
b) colored cloze	14	

Whether the students in the treatment group were helped or hindered by the color-coding, in the short run or the long, with intra-sentential or inter-sentential re-iterative-word clues, it is exciting to know that it played an active part in the present research. Fortunately, it helped to show that students did look beyond the sentence of the cloze blank for clues to find fillers. Even more important is that the color-coding did aid in the global process, at least as long as it was present. Even when the color-coding was not used in the post-test the treatment group still made progress over the pre-test. Finally, despite the difficulties of the cloze procedure (color-coded or not) and a certain dislike of it, the students in the treatment group reported that they thought they had learned

something and, most satisfying of all, the majority of the students in the treatment group indicated on the questionnaire that in the future they would prefer the color-coded cloze form to the non-colored one. To rule out that their answer was just by chance, when group two (only six of whom had experienced one randomly-colored cloze test) answered the same question on the questionnaire, color-coding got very few votes. These votes were so few and had such a limited experiential basis that they could be considered to be given by chance unlike the firm choice by group three.

The conclusions drawn from the analysis of the productive confidence scores

A look at the questionnaires indicated that the treatment group preferred the color-coded cloze to the non-colored form but was this conclusion supported by the students efforts on the cloze tests? To find out the tests were re-analyzed in terms of the number of blanks the students had filled out (the confidence level) and the number of right answers as a proportion of that confidence (the productive confidence level). It should be noted here that unlike the previous analysis absentee student scores were not interpolated.

The reasoning behind the productive confidence tables (Tables 21, 23, 25, and 27 above and Table 42, below) was to find out whether or not the color-coded parts of speech

treatment was encouraging students to fill in more blanks and more blanks more accurately than the control group.

A quick look at the tables will show that the control group did better than the treatment group on most of the measurements and most of the time. This was true for the exact-word answers for a) all the cloze blanks, b) intra- and inter-sentential blanks, and c) inter- blanks. It was also true for intra- blanks through test 5. In test 6 and the post-test the treatment group earned higher mean scores for exact answers.

With regards to the productive confidence scores there are two columns in the tables to look at. The first is Column E (% of possible blanks filled in) and the second, Column G, the correct blanks as a proportion of the number of blanks filled in. Column E gives the confidence level and G, the amount of success the group had in the number of blanks filled out. Group 1 was ahead in Column F despite the kind of blank used, i.e. the control group was more confident throughout the research project. However, on the productive confidence scores, the treatment group usually got higher scores than the control group. This is understandable and predictable in light of the fact that conservative risk takers make less mistakes. In addition, as the treatment scores were only slightly higher, the improvement made by the treatment groups was more statistical than real. Furthermore, if there was any advantage over the control group gained by the treatment

group on the practice tests for inter- blanks, it was lost in the post-test. For intra- blanks, the treatment group began on the pre-test lower on the number of blanks filled but were a little higher than the control group on productive answers. During the practice sessions the productive confidence scores of the treatment group were generally lower than those of the control group but the treatment regained the lead on the post-test. Nevertheless, the treatment group did not do as well as on the pre-test, while the control group reduced the difference slightly.

TABLE 42
TREATMENT GROUP'S CONFIDENCE LEVEL AS A % OF CONTROL GROUP'S CONFIDENCE LEVEL
FOR THE MAIN PROJECT

TEST	ALL BLANKS	INTRA+INTER	INTRA	INTER
Pre-	91.0 %	86.1 %	76.9 %	89.3 %
T2	76.0 %	75.4 %	83.6 %	71.3 %
T3	74.0 %	74.0 %	73.6 %	74.1 %
T4	90.1 %	89.8 %	69.8 %	94.7 %
T5	83.1 %	83.2 %	85.7 %	93.8 %
T6	80.8 %	81.7 %	85.7 %	80.6 %
Post-	87.7 %	88.0 %	87.8 %	88.1 %

Table 42 above shows the students in the treatment group did not surpass the confidence levels of the control group on any of the levels. The only major improvement in

confidence from pre- to post test came on the intra-sentential measurement.

It appears that color-coding helped improve confidence more on the intra-sentential level than the targeted inter-sentential level. This is surprising given that the deletions were made in order to maximize the number of beyond-sentence clues and given that there were only a low number of intra-sentential re-iterative-word clues.

CHAPTER FIVE
IMPLICATIONS OF THE RESEARCH

INTRODUCTION

I wonder if the inventor of the cloze procedure, Wilson Taylor, had a sense of humour besides his genius. What could be simpler than deleting every fifth word from a 300 word passage and multiplying the number of correct answers out of 50 by two to get the students scores in percent. I wonder if Taylor realized at first how difficult it would be for gaps in the cloze procedure to be filled, not only difficult for ESL students, but also difficult for researchers in the context of methodological questions. A review of the literature showed a challenge for both. There are so many seeming possibilities on both levels to consider in clozing the gaps that there will be many more "cloze encounters" (to borrow the name of a series of books containing graded cloze exercises).

The original enthusiasm and effort expended on the cloze procedure by students and researchers, both in terms of moral support and the great amount of research, has waned over the years. It is curious to note that just as students have been criticized for not looking beyond the sentence of the cloze blank for clues, researchers can be criticized for not trying to develop the cloze procedure beyond a discrete exercise. In fact, the case is somewhat the opposite as indicated in the present research and in a review of the cloze literature that showed that students and researchers

do look and act more globally, sometimes successfully. Chapter Four pointed out how much students looked inter-sententially. Chapter Two told of Chihara and Oller who claimed to have shown that the more proficient ESL students they tested were able to use inter-sentential clues. Also it told of others who devised ways to test for use of beyond-sentence clues. (See Bachman and Henk.) On the other hand, Shanahan and Kamil and others claimed to show the opposite. Working on the discrete level some researchers tried to improve cloze scores by focussing on intra-sentential clues such as initial letters and blank lengths equal to that of the missing words. Meanwhile, others tried to bridge the seeming opposite point of view (discrete-versus-global) by dissecting the cloze passages to account for what influenced the students to look beyond the sentences, i.e. to the presence of inter-sentential clues. Apparently, few existed. Still others tried multiple-choice fillers and various kinds of matching which sometimes required students to draw on inter-sentential information. The present research made use of color-coding in an attempt to help students find intra- and inter-sentential fillers (explicitly of the reiterative-word type). The choice of color-coding was borrowed from the use of color-coding in business and in teaching from Gattegno who taught ESL/EFL students to read by color-coding the sounds and their various spellings.

At the heart of the present research, then, is the not so simple issue of "discreteness" versus "globality". Regardless of the difficulty of the cloze passages in this research, students using the rational cloze and students using the color-coded rational cloze improved in their ability to find intra- and inter-sentential clues of the reiterative-word type.

FUTURE RESEARCH DESIGNS

Table 43 below suggests many variations on the color-coded cloze that can be tested to see under what conditions the CCC could possibly help students look beyond the sentence of the cloze blank to find the appropriate filler. (Note the "MP"s just to the right of the table. These indicate that these characteristics were used in the "Main (Research) Project".

There are two ways to test the effects of the color-coded cloze procedure. The first is against the non-colored cloze forms and the second is the color-coded cloze against various forms of itself.

In using the former, the groups should be kept constant. Group I should use the non-colored (!) form; Group 2, the randomly-colored (#)form; and Group 3 the color-coded (*) form of the cloze procedure. If the number of students available is limited, then the random form could be omitted. (In later studies, the non-colored form could be left out, so the random-color form could be left in.

There is a danger that the students doing the random-colored cloze would drop out as they did in the present research project.) If two classes are used, one being judged to be better than the other, then the non-colored cloze and color-coded cloze could be used, each half of the each class receiving one or the other of the forms. This technique of splitting the classes should partially compensate for the bias caused by one class being more proficient than the other at the start. Complete compensation would require much larger classes to allow for a random selection of students in each class. However, such large classes are rarely available.

In using the latter, the differences within the various categories (read down left column) could be compared with each other.

All the above variations could be repeated by comparing ESL speakers to native speakers of English and by comparing young ESL students to adult ones.

Even though the possibilities for cloze projects seem limitless, the two questions so important in the present research still apply. First, "Can and do students look beyond the sentence of the cloze blank to find reiterative-word clues to fill in the cloze blank?" Second, "Do the color-coded parts of speech help students in their inter-sentential clue search more than when the words were not color-coded?"

The second question also leads to another question and another variation in the research. The question is, "What happens when the color-coding is removed?" The present research appeared to show that the advantage of the crutch called "color-coding" disappeared when the color was removed. To counteract this result, it was suggested by my advisor, Dr. Slade, that the color could be phased out to see if diminishing the students' reliance on the color-coding could help them focus on the parts of speech themselves rather than on the color-coding. The phasing out of the color could be done by reducing the intensity of the color from the first practice test to the last. Actually this tended to happen in the present research as the printer ribbon started to wear out. However, a new ribbon had to be used before all the tests had been printed, so the colors became more intense again. Another way to phase out the color might be to make the first practice all in color, the second one one-fifth in color, the next one-fourth in color, and so on. An added benefit of this would be that the test scores could be broken down into color-coded and non-color-coded parts and these compared to each other. (With a good computer program and/or a lot of patience this could be done successfully. Otherwise, the process would be too time consuming and tedious.)

TABLE 43
SUGGESTIONS FOR POSSIBLE FUTURE RESEARCH DESIGNS

"MP" = done in Major Project	GROUP I	GROUP II	GROUP III	MP
	!	#	*	
TYPES OF CLOZE	non-colored	random-colored	color-coded	MP
1. Standard	!	#	*	
2. Rational maximum no. of re-iteratives (all parts of speech)	!	#	*	
	intra-type	intra-type	intra-type	
	inter-type	inter-type	inter-type	
	intra/inter	intra/inter	intra/inter	MP
maximum no. of re-iteratives (nouns verbs, adjectives adverbs)	!	#	*	
	intra-type	intra-type	intra-type	
	inter-type	inter-type	inter-type	
	intra/inter	intra/inter	intra-inter	
PASSAGES	!	#	*	
1. Readability Level by - formula - cloze results	independent	indedendent	independent	
	instruction	instruction	instruction	
	frustration	frustration	frustration	MP
2. Order (according to no. of re-iterative-word blanks)	increasing	increasing	increasing	mp
	decreasing	decreasing	decreasing	
3. Pre-/Post tests (no-color)	same	same	same	MP
	different	different	different	
	1 same + 1 different	1 same + 1 different	1 same + 1 different	
4. Relatedness of subject matter	related	related	related	MP
	unrelated	unrelated	unrelated	

STUDENTS	!	#	*	
1. Proficiency Level	high medium	high medium	high medium	MP
2. Experience with cloze	some none	some none	some none	MP
SCORING	**!**	**#**	*****	
Type	exact acceptable	exact acceptable	exact acceptable	MP MP
Spelling	exact acceptable incorrect if not same as re-iterative blank word	exact acceptable incorrect if not same as re-iterative blank word	exact acceptable incorrect if not same as re-iterative blank word	MP MP
DATA (steps)	**!**	**#**	*****	
Collection (1 student/ row)	spreadsheet (1 word/ column/ student)	spreadsheet (1 word/ column/ student)	spreadsheet (1 word/ column/ student)	MP
Assignment of type of re-iterative word	-intra-type -inter-type neither	-intra-type -inter-type -neither	-intra-type -inter-type -neither	MP MP MP
Evaluating answers	-right = 1 -accept = .5 -wrong = 0	-right = 1 -accept = .5 -wrong = 0	-right = 1 -accept = .5 -wrong = 0	MP MP MP
Isolation of type of re-iterative word	(delete columns containing other two types)	(delete columns containing other two types)	(delete columns containing other two types)	mp

Summation of points to find total scores for each student, means for each blank/ group, and means for each group	-across for student's score -down for blank's score/group -compare sum of down totals to sum of across totals -do averages	-across for student's score -down for blank's score/group -compare sum of down totals to sum of across totals -do averages	-across for student's score -down for blank's score/group -compare sum of down totals to sum of across totals -do averages	MP MP MP MP
Graphs	-use bar graphs in spreadsheet program	-use bar graphs in spreadsheet program	-use bar graphs in spreadsheet program	MP
Statistics Program	-use "One Between and One Repeated Measure Factor ANOVA	-use "One Between and One Repeated Measure Factor ANOVA	-use "One Between and One Repeated Measure Factor AVOVA	MP

Note: "MP" means a similar version done in Major Project.

The above table suggest many variations on what was done in the present research project. Many variations are what could and should have been done in the main research if there had been enough students and enough time. However, even a lot more could be done to find out if students are looking inter-sententially for clues fill in cloze blanks. Think-aloud protocols could be recycled to include the new idea of color-coding. Furthermore, to increase the number of participants for statistical purposes, many students could use the language laboratory where their thoughts could be recorded to determine which and how many inter-sentential reiterative-word clues they are able to find.

For those researchers with even more resources available, i.e. sophisticated color computers, a whole new era in cloze research is awaiting. Needed would be a computer laboratory with a minimum of 20 IBM 486 color computers in a network. The cloze passage would be presented to each student on his/her computer. Half the students would have the color-coded version, the other half the non-colored form. The students could type in the answers. A computer program (yet to be written) would keep track of every key stroke to determine where the student was looking for answers, and record every answer on a group spreadsheet, keeping statistics throughout. The researcher would know at every instant how everyone was doing. Both sets of information could be produced in hard copy to make the flow of results easy to see. The research could be designed so that the students would get immediate feedback after the test.

Once the methodology has been polished, teachers could make use of the instant feedback to do what researchers by definition cannot do. Teachers could make any changes that the feedback indicated. With the sophisticated computers, spreadsheet and analysis programs, and peripherals like scanners, teachers could easily create more cloze passages. Teachers could choose easier passages, more interesting stories, scan them into a word processing/spreadsheet program, check to confirm the readability level, find the number and location of reiterative words, delete as many of

those words as possible, color-code the blanks and remaining words and make a master copy for use over the computer network. Such computer technology could give the teacher the insights of a researcher without restricting the teacher to the inflexibility of pure research. Students would benefit because the teacher could quickly adapt the materials to the needs and interests of the student. The result of ease in preparation and analysis plus the relevancy to students of the cloze passages could increase the motivation of both the students and teachers to take full advantage of the intended value, i.e. the globality of the cloze procedure.

The above vision about computer technology, color-coding, and the cloze procedure is a dream, indeed. But given the capabilities of computer designers, computer programers, plus the insights from the present research project, the dream of a computerized color-coded cloze procedure is a reachable one. Even though the color-coded treatment group in the present research did not overtake the non-colored control group, there was enough improvement in overall and inter-sentential scores and in motivation to support the value of more research into the use of color-coded cloze passages. Taylor, would have been excited that the door has been opened wide once more on his cloze procedure and his dream for a simple global teaching/testing method is closer than ever.

From discrete, to global, to the universe...One's imagination can run on endlessly and that's exciting for the researcher. The actual research is much more down to earth, with the research and the students buried in the nitty gritty. Getting out of the discrete level with the cloze procedure, color-coded or otherwise, is like breaking the G-force of gravity in a rocket ship. It takes a special student with lots of determination to take off with the cloze test and reach some distant destination. The cloze procedure is not really for the masses who want only to be spoon-fed. Nor is it for those researchers who want to isolate one variable in a universe of interacting forces, while students dance around the candy shop of fancy packaged knowledge. The cloze procedure and its color-coded crutch are better left to the classroom situation where they can be pulled out when a) the students are in the mood for them, b) when the teacher can discuss the guessing strategies with the students, and c) when there is time for feedback. Unfortunately none of these conditions do coincide with traditional research which by its very nature is discrete, not global. Perhaps, though as humankind has managed to analyze the universe with billions of discrete questions, almost simultaneously using sophisticated computers, maybe, as suggested above, we can bring the power of computers to bear on researching the cloze procedure as it relates to going beyond the sentence level. Maybe in the process and under more favorable circumstances we can see if the color-

coded cloze procedure is as good as on the surface it would appear to be.

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APPENDICES FOR PILOT PROJECT

APPENDIX A:

PILOT PASSAGES

The Original Texts with Deletions Indicated

Pre-test:	Terry Fox
Test 2:	The Black Donnellys
Test 3:	The Doctor (Norman Bethune)
Test 4:	The Leader, (Louis Riel)
Test 5:	Creatures of the Wild (Sasquatch)
Test 6	Insulin
Post-Test:	Terry Fox

Pre-test: A Young Man's Dream

Terry Fox, born in Winnipeg, Manitoba on July 28, 1958, was Betty and Rolly Fox's second child. The family of six 1)moved to Port Coquitlam, near 2)Vancouver when Terry was seven. 3)At school, Terry was always 4)involved in sports and began 5)cross-country running as early 6)as the eighth grade. His 7)keen interest in all sports 8)led him to Simon Fraser 9)University where he began studying 10)kinesiology, the study of human 11)movement.

In November of 1976, 12)he was involved in a 13)car crash which injured his 14)right knee. Never a complainer,

15)he one day collapsed in 16)front of his mother because 17)his pain was so intense. 18)At hospital he was diagnosed 19)as having osteogenic sarcoma, a 20)rare, malignant tumour that develops 21)mostly in human males between 22)the ages of ten and 23)25. It is a bone 24)cancer that begins at the 25)knee where it renders the 26)bone soft and mushy. Eventually 27)it breaks through the bone 28)to the surrounding muscles, sending 29)cancer cells into the bloodstream 30)to be carried all over 31)the body. Its cause is 32)unknown. Terry's leg would have 33)to be amputated just above 34)the right knee in order 35)to stop the cancer.

All 36)through elementary school, Terry's teachers 37)spoke of his drive and 38)determination, his perseverance, tenacity, and 39)mental toughness. A hard-driving, 40)gutsy guy who never gave 41)up, Terry decided to look 42)upon the loss of his 43)leg as a new challenge. 44)He decided he could be 45)just as positive with one 46)leg as he had been 47)with two. The night before 48)his amputation, he formulated his 49)idea to run across Canada 50)to raise money for cancer research.

Later, he underwent a series of gruelling chemotherapy treatments to destroy the cancer cells in his blood. Terry did not complain.

Test 2: The Black Donnellys

Arrival in Canada

James Donnelly arrived in Lucan, Ontario from his native Ireland in 1487. He was accompanied by 1)his wife Johannah and his 2)sons, James Jr. and William. 3)He had married Johannah in 4)Ireland. She was a strange-5)looking woman--extremely masculine, with 6)large hands and broad shoulders 7)and certainly no beauty. In 8)later years she grew a 9)beard and even smoked a 10)pipe. Both Jim and Johannah 11)loved to fight. Any dispute, 12)no matter how insignificant, was 13)good reason for a brawl. 14)They hated guns of any 15)kind and preferred clubs and 16)their own fists.

The Beginning of Trouble

Arriving in 17)Canada, where land grants were 18)easily obtained, they preferred to 19)settle on 40 hectares of 20)privately owned land. They simply 21)took it over. They were 22)thus called "squatters". In eight 23)years Johannah bore five more 24)sons--John, Patrick, Michael, Robert 25)and Thomas --and a daughter, 26)Jenny. After ten years the 27)land changed hands and the 28)new owner, whose name was 29)John Farrell, took James Donnelly 30)to court. James had to 31)surrender nearly 20 hectares of 32)land to

Farrell. From then 33)on there was constant battling. 34)Farrell found his cows poisoned 35)and his barn burned. Moreover, 36)one day while sitting in 37)his kitchen, Farrell felt a 38)bullet go by. It could 39)be none other than one 40)of the Donnelly boys. They 41)were as black in sin 42)as their father. Thus they 43)were called the black Donnellys.

Prison

44)James was a hard drinker. 45)At a public gathering one 46)day, he had too much 47)to drink. John Farrell quarrelled 48)with him. James hit Farrell 49)on the head with an 50)iron bar. It took Farrell three days to die. James ran into the forest surrounding his home and hid there for two years. The people of Lucan thought that he had escaped.

Test 3: An Exceptional Leader

The Metis

Louis Riel grew up on the east side of the Red River in St. Boniface. He belonged to the 1)Metis--a culturally distinct people 2)of Native Indian and French 3)ancestry. The Metis were semi-nomadic, 4)buffalo each year in June 5)traveled West for their annual 6)buffalo hunt. It was the 7)high point of the year 8)for them because it provided 9)meat for the upcoming winter. 10)The buffalo hunt had a 11)certain military precision. There were 12)appointed captains, soldiers, and guides. 13)Each had a job to 14)perform, and all participants were 15)required to obey the rules 16)of the hunt. No buffalo 17)could be hunted on the 18)Sabbath day. Any participant who 19)did not follow orders, who 20)lagged behind or advanced or 21)hunted without permission, was punished 22)because food for the entire 23)year was at stake. Afterwards, 24)all meat from the hunt 25)was shared equally among the 26)participants. Louis' family, like most 27)Metis families, were fervently Catholic. 28)Louis excelled in school and 29)was chosen for religious studies. 30)In 1858, when he was 31)13, he was sent East 32)to a Jesuit college in 33)Montreal to study for the 34)priesthood. He remained in school 35)for six years. Then he 36)left and took a job 37)as a clerk in a 38)law

office. A year later, 39)he was back in Red 40)River, actively participating in the 41)Metis community.

Trouble in the Red River

At this time, 42)Red River belonged to the 43)Hudson's Bay Company. The Hudson's 44)Bay Company had decided to 45)sell Red River to Canada. 46)No one asked the Metis 47)and white settlers there if 48)they wanted to join Canada. 49The) Metis feared that their 50)long-established farms would be divided up because of new land surveys. The Canadian government sent William McDougall as the new lieutenant governor of Red River.

Test 4: The People's Doctor

Norman Bethune was born on March 3, 1890, in Gravenhurst, Ontario. He enrolled at the 1)University of Toronto Medical School 2)in 1909. He took a 3)two-year break from medical 4)school to work by day 5)at lumber camps and railroad 6)construction sites. It was here 7)that he first encountered the 8)harsh life of the workers. 9)He returned to medical school 10)and was qualified as a 11)surgeon in 1916. He married 12)and moved to Detroit, Michigan 13)where he set up his 14)first medical practice.

In Detroit, 15)Bethune became acquainted with the 16)enormous gap between the level 17)of health care available to 18)the rich and to the 19)poor. Most of his patients 20)were barely able to pay 21)him.

As his medical practice 22)was becoming securely established, Bethune 23)developed tuberculosis. In 1920 people 24)feared tuberculosis as they fear 25)cancer today. He was forced 26)to stop working and spent 27)a year at a sanitorium, 28)recuperating. At this time, he 29)began painting. His despair during 30)this year is reflected in 31)his paintings, for he was 32)sure he was dying. To 33)make matters worse, his wife 34)divorced him.

Once fully recovered, 35)Bethune went to Montreal in 36)1928 where he worked as 37)a tuberculosis (TB) specialist in 38)an English hospital. He conducted 39)his operations at high speed 40)in order to minimize operating 41)time and designed several new 42)surgical instruments to improve surgical 43)procedures. Thus he brought both 44)critical skill and creative style 45)to surgery.

Bethune then took 46) his work at a 47)Quebecois hospital. At this time, 48)French Canadian hospitals were poorer 49)and less well equipped than 50)those serving English Canada. Just as he had noticed the glaring disparity between the rich and the poor of Detroit, he now

saw the difference between health care in French and English Canada. And he was determined to do something about it.

Test 5: Creature of the Wild

The earliest references to the Sasquatch are found on the carved totem poles and masks of the coast Indians of British Columbia. These Indians say that 1)the Sasquatch (meaning "wild man 2)of the woods") is the 3)remnant of an ancient race 4)which has managed to avoid 5)capture. However, more than 750 6)sightings of the beast or 7)its foot prints have been 8)reported in the past 100 9)years. These sightings have given 10)us a good idea of 11)what the Sasquatch might look 12)like.

In some ways the 13)Sasquatch seems to resemble human 14beings A Sasquatch is approximately 15)360 centimetres tall, weighing between 16)270 and 360 kilograms. It 17)is completely covered with short 18)hair except for the palms 19)of the hands and the 20)soles of the feet. Similarly, 21)humans have no hair on 22)their palms or soles. The 23)hair on the Sasquatch head 24)is longer than the hair 25)on the rest of the 26)body. The Sasquatch face is 27)black, and the eyes are 28)larger than a human's. The 29)Sasquatch head is said to 30)be larger at the back

31)than at the front. Its 32)ears are comparable to human 33)ears, its nose, broad and 34)flat. Unlike a human, the 35)Sasquatch has a very short 36)neck. The arms are longer 37)than a human's and reach 38)below the knees. The hands 39)are massive. The females have 40)large pendulous breasts.

Like a 41)human, the Sasquatch walks upright 42)on two legs, places its 43)heel down first, and swings 44)its arms as it walks. 45)It is extremely agile and 46)mobile for its huge size. 47)The Sasquatch foot, which is 48)about 37 centimetres long, differs 49)from a human foot in 50)that its ankle bones are enlarged to support its great weight. Yet there is much flexibility in the toes.

Test 6: A Different War

Before 1941 there were 23000 Japanese people in Canada --22000 in British Columbia and 1000 elsewhere. Although World War II did 1)not really touch Canada, the 2)Japanese people living there were 3)in a personal war with 4)the Canadian government. There were 5)no bombs and no guns 6)but, all the same, they 7)lost everything--homes, jobs, families, 8)pride --because the Canadian government 9)took it all away from 10)them.

The Japanese had been 11)coming to British Columbia since 12)1877. They found work as 13)fishermen and lumberjacks on the 14)west coast of British Columbia, 15)sending later for their families. 16)Many of them lived in 17)Vancouver, on Powell Street. Working 18)long, hard hours, these Japanese 19)immigrants, or Issei (meaning "first 20)generation" in Japanese), were good 21)citizens who valued family honor. 22)If one person in the 23)family did something wrong, the 24)whole family suffered. There was 25)very little crime among Japanese 26)families for they would not 27)stand for it.

The Issei 28)did not like to be 29)in debt. Often, if they 30)did not have enough money 31)to buy something, they waited 32)until they had enough money 33)saved up. They took good 34)care of their elderly, refusing 35)to place

them in old 36)people's homes to die, poor 37)and alone. They considered their 38)old people to be the 39)most important members of the 40)Japanese family who could teach 41)the young a lot about 42)life. The Issei also looked 43)after their own poor, saying 44)that it was up to 45)them to ensure that they 46)had enough to eat and 47)a place to stay.

The 48)Issei preferred to live in 49)groups with other Japanese. They 50)did not want to change to be like Canadians. They wanted to keep their Japanese way of life, so they cut themselves off from other people.

Test 7: The Discovery of Insulin

Looking back, it must have seemed like a miracle. Banting was just 29 in 1)that summer of 1921, a 2)surgeon not long out of 3)medical school. Best was a 4)boy of 22, only a 5)recent graduate of arts. Their 6)research laboratory, grudgingly loaned for 7)three months by the University 8)of Toronto, was dark and 9)humid. They ate poorly. They 10)were not paid. Calculate the 11)odds: two inexperienced young men, 12)badly equipped, with 90 days 13)to change the face of 14)medical history.

As the world 15)knows well what Sir Frederick 16)G.. Banting and Dr. Charles 17)Herbert Best discovered that summer--18)a crude extract of precious 19)insulin, a chemical derived from 20)the pancreas and capable of 21)controlling diabetes mellitus, a killer 22)disease as old as China.

23)The existence of insulin had 24)been suspected for more than 25)a decade and the attempt 26)to extract and isolate it 27)occupied researchers around the world. 28)But Banting and Best, experimenting 29)with diseased pancreases removed from 30)diabetic dogs, were the first. 31)They made one mongrel famous -- 32)Marjorie; a shot of unpurified 33)insulin roused her from a 34)coma and she lived for 35)years. Six months later, on 36)January 11, 1922--after first 37)verifying its safety with large 38)doses on themselves--the first 39)human diabetic was given insulin: 40)14-year-old Leonard Thompson 41)at Toronto General hospital. With 42)insulin, Thompson went on to 43)live another 12 years before 44)dying of causes unrelated to 45)diabetes.

The world at large 46)proclaimed them, although only Banting 47)and Dr. J.J.R. Macleod, the physiologist 48)who had reluctantly made the 49)lab space available and then 50)left for a summer holiday, were cited for the 1923 Nobel

Prize in medicine. Banting graciously shared his award with Best.

If Best was slighted at the lack of recognition accorded him, and vexed by Macleod's tendency to want all the credit for his own, he nursed his bitterness privately.

.....

The Black Donnellys

Arrival in Canada

James Donnelly arrived in Lucan, Ontario from his native Ireland in 1487. He was accompanied by 1)_____ wife Johannah and his 2)_____, James Jr. and William. 3)_____ had married Johannah in 4)_____. She was a strange- 5)_____ woman--extremely masculine, with 6)_____ hands and broad shoulders 7)_____ certainly no beauty. In 8)_____years she grew a 9)_____ and even smoked a 10)_____. Both Jim and Johannah 11)_____ to fight. Any dispute, 12)_____ matter how insignificant, was 13)_____ reason for a brawl. 14)_____ hated guns of any 15)_____ and preferred clubs and 16)_____ own fists.

The Beginning of Trouble

Arriving in 17)_____, where land grants were 18)_____ obtained, they preferred to 19)_____ on 40 hectares of 20)_____ owned land. They simply 21)_____ it over. They were 22)_____ called "squatters". In eight 23)_____ Johannah bore five more 24)_____--John, Patrick, Michael, Robert

25)_____ Thomas --and a daughter,

26)_____. After ten years the 27)_____

changed hands and the 28)_____ owner, whose

name was 29)_____ Farrell, took James Donnelly

30)_____ court. James had to 31)_____

nearly 20 hectares of 32)_____ to Farrell.

From then 33)_____ there was constant battling.

34)_____ found his cows poisoned 35)_____

his barn burned. Moreover, 36)_____ day while

sitting in 37)_____ kitchen, Farrell felt a

38)_____ go by. It could 39)_____

none other than one 40)_____ the Donnelly

boys. They 41)_____ as black in sin

42)_____ their father. Thus they 43)_____

called the black Donnellys.

Prison

44)_____ was a hard drinker.

45)_____ a public gathering one 46)_____,

he had too much 47)_____ drink. John Farrell

quarrelled 48)_____ him. James hit Farrell

49)_____ the head with an 50)_____

bar. It took Farrell three days to die. James ran

into the forest surrounding his home and hid there

for two years. The people of Lucan thought that

he had escaped.

An Exceptional Leader

The Metis

Louis Riel grew up on the east side of the Red River in St. Boniface. He belonged to the 1)_____--a culturally distinct people 2)_____ Native Indian and French 3)_____. The Metis were semi-nomadic, 4)_____ each year in June 5)_____ West for their annual 6)_____ hunt. It was the 7)_____ point of the year 8)_____ them because it provided 9)_____ for the upcoming winter. 10)_____ buffalo hunt had a 11)_____ military precision. There were 12)_____ captains, soldiers, and guides. 13)_____ had a job to 14)_____, and all participants were 15)_____ to obey the rules 16)_____ the hunt. No buffalo 17)_____ be hunted on the 18)_____ day. Any participant who 19)_____ not follow orders, who 20)_____ behind or advanced or 21)_____ without permission, was punished 22)_____ food for the entire 23)_____ was at stake. Afterwards, 24)_____ meat from the hunt 25)_____ shared equally among the 26)_____. Louis' family, like most 27)_____ families, were fervently Catholic. 28)_____ excelled in school and

29)_____ chosen for religious studies.

30)_____ 1858, when he was 31)_____,

he was sent East 32)_____ a Jesuit college

in 33)_____ to study for the

34)_____. He remained in school 35)_____

six years. Then he 36)_____ and took a

job 37)_____ a clerk in a 38)_____

office. A year later, 39)_____ was back in

Red 40)_____, actively participating in the

41)_____ community.

Trouble in the Red River

At this time, 42)_____ River belonged to

the 43)_____ Bay Company. The Hudson's

44)_____ Company had decided to 45)_____

Red River to Canada. 46)_____ one asked the

Metis 47)_____ white settlers there if

48)_____ wanted to join Canada. 49)_____

Metis feared that their 50)_____-established farms

would be divided up because of new land surveys.

The Canadian government sent William McDougall as the

new lieutenant governor of Red River.

The People's Doctor

Norman Bethune was born on March 3, 1890, in Gravenhurst, Ontario. He enrolled at the 1)_____ of Toronto Medical School 2)_____ 1909. He took a 3)_____-year break from medical 4)_____ to work by day 5)_____ lumber camps and railroad 6)_____ sites. It was here 7)_____ he first encountered the 8)_____ life of the workers. 9)_____ returned to medical school 10)_____ was qualified as a 11)_____ in 1916. He married 12)_____ moved to Detroit, Michigan 13)_____ he set up his 14)_____ medical practice. In Detroit, 15)_____ became acquainted with the 16)_____ gap between the level 17)_____ health care available to 18)_____ rich and to the 19)_____. Most of his patients 20)_____ barely able to pay 21)_____.

As his medical practice 22)_____ becoming securely established, Bethune 23)_____ tuberculosis. In 1920 people 24)_____ tuberculosis as they fear 25)_____ today. He was forced 26)_____ stop working and spent 27)_____ year at a sanitorium, 28)_____. At this time, he 29)_____ painting. His despair during

30)_____ year is reflected in 31)_____ paintings, for he was 32)_____ he was dying. To 33)_____ matters worse, his wife 34)_____ him.

Once fully recovered, 35)_____ went to Montreal in 36)_____ where he worked as 37)_____ tuberculosis (TB) specialist in 38)_____ English hospital. He conducted 39)_____ operations at high speed 40)_____ order to minimize operating 41)_____ and designed several new 42)_____ instruments to improve surgical 43)_____. Thus he brought both 44)_____ skill and creative style 45)_____ surgery.

Bethune then took 46)_____ his work at a 47)_____ hospital. At this time, 48)_____ Canadian hospitals were poorer 49)_____ less well equipped than 50)_____ serving English Canada. Just as he had noticed the glaring disparity between the rich and the poor of Detroit, he now saw the difference between health care in French and English Canada. And he was determined to do something about it.

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The earliest references to the Sasquatch are found on the carved totem poles and masks of the coast Indians of British Columbia. These Indians say that 1)_____ Sasquatch (meaning "wild man 2)_____ the woods") is the 3)_____ of an ancient race 4)_____ has managed to avoid 5)_____. However, more than 750 6)_____ of the beast or 7)_____ foot prints have been 8)_____ in the past 100 9)_____. These sightings have given 10)_____ a good idea of 11)_____ the Sasquatch might look 12)_____.

In some ways the 13)_____ seems to resemble human 14)_____. A Sasquatch is approximately 15)_____ centimetres tall, weighing between 16)_____ and 360 kilograms. It 17)_____ completely covered with short 18)_____ except for the palms 19)_____ the hands and the 20)_____ of the feet. Similarly, 21)_____ have no hair on 22)_____ palms or soles. The 23)_____ on the Sasquatch head 24)_____ longer than the hair 25)_____ the rest of the 26)_____. The Sasquatch face is 27)_____, and the eyes are 28)_____ than a human's. The

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Looking back, it must have seemed like a miracle. Banting was just 29 in 1)_____ summer of 1921, a 2)_____ not long out of 3)_____ school. Best was a 4)_____ of 22, only a 5)_____ graduate of arts. Their 6)_____ laboratory, grudgingly loaned for 7)_____ months by the University 8)_____ Toronto, was dark and 9)_____. They ate poorly. They 10)_____ not paid. Calculate the 11)_____: two inexperienced young men, 12)_____ equipped, with 90 days 13)_____ change the face of 14)_____ history.

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28)_____ Banting and Best, experimenting
29)_____ diseased pancreases removed from
30)_____ dogs, were the first. 31)_____
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Six months later, on 36)_____ 11, 1922--after
first 37)_____ its safety with large
38)_____ on themselves--the first 39)_____
diabetic was given insulin: 40)_____-year-old
Leonard Thompson 41)_____ Toronto General hospital.
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only Banting 47)_____ Dr.J.J.R. Macleod, the
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The Black Donnellys !!!!!!!!!!

Arrival in Canada

James Donnelly arrived in Lucan, Ontario from his native Ireland in 1487. He was accompanied by 1) his wife Johannah and his 2) sons, James Jr. and William. 3) He had married Johannah in 4) Ireland. She was a strange-5) looking woman--extremely masculine, with 6) large hands and broad shoulders 7) and certainly no beauty. In 8) later years she grew a 9) beard and even smoked a 10) pipe. Both Jim and Johannah 11) loved to fight. Any dispute, 12) no matter how insignificant, was 13) good reason for a brawl. 14) They hated guns of any 15) kind and preferred clubs and 16) their own fists.

The Beginning of Trouble

Arriving in 17) Canada, where land grants were 18) easily obtained, they preferred to 19) settle on 40 hectares of 20) privately owned land. They simply 21) took it over. They were 22) thus called "squatters". In eight 23) years Johannah bore five more 24) sons--John, Patrick, Michael, Robert

25) and Thomas --and a daughter,
26) Jenny. After ten years the 27) land
changed hands and the 28) new owner, whose
name was 29) John Farrell, took James Donnelly
30) to court. James had to 31) surrender
nearly 20 hectares of 32) land to Farrell.
From then 33) on there was constant battling.
34) Farrell found his cows poisoned 35) and
his barn burned. Moreover, 36) one day while
sitting in 37) his kitchen, Farrell felt a
38) bullet go by. It could 39) be
none other than one 40) of the Donnelly
boys. They 41) were as black in sin
42) as their father. Thus they 43) were
called the black Donnellys.

Prison

44) James was a hard drinker.
45) At a public gathering one 46) day,
he had too much 47) to drink. John Farrell
quarrelled 48) with him. James hit Farrell
49) on the head with an 50) iron
bar. It took Farrell three days to die. James ran
into the forest surrounding his home and hid there
for two years. The people of Lucan thought that
he had escaped.

The Cloze Passages and the Distribution of the Deleted Words.

1. Terry Fox

(ord = order of words in the passage)

ord	word	location		bef	bef	aft	aft
1	A						
2	Young						
3	Man's						
4	Dream						
5	Terry						
6	Fox,						
7	born						
8	in						
9	Winnipeg,						
10	Manitoba						
11	on						
12	Juiy						
13	28,						
14	1958,						
15	was						
16	Betty						
17	and						
18	Rolly						
19	Fox's						
20	second						
21	child.						
22	The						
23	family						
24	of						
25	six						
26	moved	1:		0	0	0	0
27	to						
28	Port						
29	Coquitlam,						
30	near						
31	Vancouver	1:		0	0	0	0
32	when						
33	Terry						
34	was						
35	seven.						
36	At	3::	144,(111)	0	0	0	1(1
37	school,						
38	Terry						
39	was						
40	always						
41	involved	2:	83	0	0	0	1
42	in						
43	sports						
44	and						

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45 began
46 cross-     1:                                0 0 0 0
47 country
48 running
49 as
50 early
51 as         6::    49,     237,247,252,(116)          0 1 0 3(1
52 the
53 eighth
54 grade.
55 His
56 keen       1:                                0 0 0 0
57 interest
58 in
59 all
60 sports
61 led        1:                                0 0 0 0
62 him
63 to
64 Simon
65 Fraser
66 University 1:                                0 0 0 0
67 where
68 he
69 began
70 studying
71 kinesiology, 1:                                  0 0 0 0
72 the
73 study
74 of
75 human
76 movement.  1:                                    0 0 0 0
77 In
78 November
79 of
80 1976,
81 he         9:::68,   113,243,253,263,278,(96,241          1 0 0 5(2
82 was
83 involved
84 in
85 a
86 car        1:                                0 0 0 0
87 crash
88 which
89 injured
90 his
91 right      2:                192             0 0 0 1
92 knee.
93 Never
94 a
95 complainer,
96 he         9:::68,   113,243,253,263,278,(96,241          1 0 0 5(2
97 one
98 day
```

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99 collapsed
100 in
101 front      1:                                  0  0  0  0
102 of
103 his
104 mother
105 because
106 his        10::55,90, 103, 208,212,235,265,292,(261                  2 1  0 5(1
107 pain
108 was
109 so
110 intense.
111 At         3::          144,(36)                      (1) 0  0  1
112 hospital
113 he
114 was
115 diagnosed
116 as         6:: 49,          237,247,252,(51)        1(1 0  0  3
117 having
118 osteogenic
119 sarcoma,
120 a
121 rare,      1:                              0  0  0  0
122 malignant
123 tumour
124 that
125 develops
126 mostly     1:                              0  0  0  0
127 in
128 human
129 males
130 between
131 the        15:::22,52,72/145,150,159,162,169,198,232,25      3  0  0 9(2
132 ages
133 of
134 ten
135 and
136 25.        1:                                  0  0  0  0
137 It
138 is
139 a
140 bone
141 cancer     5::          199,275,289,(166)                 0  0  0 3(1
142 that
143 begins
144 at
145 the
146 knee       3: 92,                193                       1  0  0  1
147 where
148 it
149 renders
150 the
151 bone       3:        140,        160                       0  1  0  1
152 soft
```

```
153 and
154 mushy.
155 Eventually
156 it        3:  137,148                                  2  0  0  0
157 breaks
158 through
159 the
160 bone
161 to        3: 27,63                              2  0  0  0
162 the
163 surrounding
164 muscles,
165 sending
166 cancer     5::            199,275,289,(141)             0  0  0 3(1
167 cells
168 into
169 the
170 bloodstream
171 to        7::::       229,267,286,(186,196,271)        0  0  0 3(3
172 be
173 carried
174 all
175 over
176 the    15:::22,52,72,145,150/159,162,169/198,232,25        5(1  3  0 4(1
177 body.
178 its
179 cause
180 is
181 unknown.    1:                                         0  0  0  0
182 Terry's
183 leg
184 would
185 have
186 to        7::::       229,267,286,(171,196,271)        (1  0  1 3(1
187 be
188 amputated
189 just
190 above
191 the    15:::22,52,72,145,150,159,162,169/198/232,25       8(2  0  1  3
192 right
193 knee
194 in
195 order
196 to        7::::       229,267,286,(171,186,271)        (1  (1  0 3(1
197 stop
198 the
199 cancer.
200 All
201 through     2: 158                                  1  0  0  0
202 elementary
203 school,
204 Terry's
205 teachers
206 spoke       1:                                 0  0  0  0
```

207 of
208 his
209 drive
210 and
211 determination 1: 0 0 0 0
212 his
213 perseverance
214 tenacity,
215 and
216 mental 1: 0 0 0 0
217 toughness.
218 A
219 hard-
220 driving,
221 gutsy 1: 0 0 0 0
222 guy
223 who
224 never
225 gave
226 up, 1: 0 0 0 0
227 Terry
228 decided
229 to
230 look
231 upon 1: 0 0 0 0
232 the
233 loss
234 of
235 his
236 leg 3:: 183, (251) 1 0 0 (1
237 as
238 a
239 new
240 challenge.
241 He 9::: 68,113, 243, 253,263,278,(81,96 2(2 0 1 3
242 decided
243 he
244 could
245 be
246 just 2: 189* 0 0 0 1
247 as
248 positive
249 with
250 one
251 leg 3:: 183,(236) 1(1 0 0 0
252 as
253 he
254 had
255 been
256 with 2: 249 0 1 0 0
257 two.
258 The
259 night
260 before

261 his 10::55,90,103,208,212,235/265/292,(106) 6(1 1 0 1
262 amputation,
263 he
264 formulated
265 his
266 idea 1: 0 0 0 0
267 to
268 run
269 across
270 Canada
271 to 7::::229, 267, 286,(171,186,196) 1 1 0 1(3
272 raise
273 money
274 for
275 cancer
276 research.
277 Later,
278 he
279 underwent
280 a
281 series
282 of
283 grueling
284 chemotherapy
285 treatments
286 to
287 destroy
288 the
289 cancer
290 cells
291 in
292 his
293 blood.
294 Terry
295 did
296 not
297 complain.

TABLE A
AN ANALYSIS OF RE-ITERATIVE CLUES:
LOCATION AND WEIGHTED VALUES FOR SCORING THE CLOZE PROCEDURE

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3. An Exceptional Leader: (50 deletions, 299 word passage)

no. of
clue words...BEFORE=AFTER ....sentence of cloze blank

```
      ======:======
       B W:W B      nit : (clue word) not in passage
       e i:i e     bey : (clue word) beyond sentence
       y t:t y     bed : (different clue) beyond sentence
       o h:h o     win : (clue word) within sentence
       n i:i n     wid : (different clue) within sentence
       d n:n d
         :                    :
         : SCORES FOR CLUE LOCATION      :
         :                    :
         :                    :
NOUNS and PRONOUNS :          VERBS      :
         :                    :
 1) Metis     1 0 0 3(2)= 7/6/5 bey  5) traveled——— = 10/9/8 nit
 3) ancestry  ——— = 10/9/8 nit  14) perform ——— = 10/9/8 nit
 6) buffalo   0 0 0 2  = 7/6/5 bey  15) required——— = 10/9/8 nit
 9) meat      0 0 0 1  = 7/6/5 bey  17) could ——— = 10/9/8 nit
13) Each      ——— = 10/9/8 nit  19) did  ——— = 10/9/8 nit
18) Sabbath   ——— = 10/9/8 nit  20) lagged ——— = 10/9/8 nit
23) year      2 0 0 2  = 7/6/5 bey  21) hunted 1d 0 0 d  = 7/6/5 bey
26) participants2 0 0 d  = 7/6/5 bey  25) was   3 0 0 4(1)= 7/6/5 bey
28) Louis     2d0 0 0  = 7/6/5 bey  29) was   4 0 0 3(1)= 7/6/5 bey
33) Montreal  ——— = 10/9/8 nit  36) left  ——— = 10/9/8 nit
34) priesthood ——— = 10/9/8 nit  45) sell  ——— = 10/9/8 nit
38) law       ——— = 10/9/8 nit  ======================
39) he        5 0 0 0  = 7/6/5 bey  11 verbs/50 deletions
40) River     1 0 0 4  = 7/6/5 bey     = 22%
42) Red       3 0 0 2  = 7/6/5 bey
43) Hudson's  0 0 0 1  = 7/6/5 bey
44) Bay       1 0 0 0  = 7/6/5 bey
48) they      ——— = 10/9/8 nit
========================
18 nouns/50 deletions
   = 36%
```

ADJECTIVES ADVERBS

7) high —— = 10/9/8 nit
10) the x 0 0 x = 7/6/5 bey ==========
11) certain —— = 10/9/8 nit 0 adverbs/50 deletions
12) appointed —— = 10/9/8 nit = 0%
24) all 1 0 0 0 = 7/6/5 bey
27) Metis 2(1)0 0 2(1)= 7/6/5 bey
31) 13 —— = 10/9/8 nit
41) Metis 4 0 0 2 = 7/6/5 bey
46) No 1 0 0 0 = 7/6/5 bey
49) the x 0 0 1 = 7/6/5 bey
50) long —— = 10/9/8 nit
==========
11 adjectives/50 deletions
= 22%

NIT BEY(D) WIN(D)

OTHER NOUNS +
PRONS = 36% > 14% 22% 0%
2) of 1 0 0 3(1)= 7/6/5 bey
4) and 1 0 0 5 = 7/6/5 bey VERBS = 22% > 16% 6% 0%
8) for 1 0 1 3(1)= 7/6/5 bey
16) of 2(1)0 0 2 = 7/6/5 bey ADJS = 22% > 10% 12% 0%
22) because 1 0 0 1 = 7/6/5 bey
30) in 3 0 1 5 = 5/4/4 win ADVS = 0% > 0% 0% 0%
32) to 1 0 0 2 = 7/6/5 bey
35) for 5(1)0 0 0 = 7/6/5 bey OTHER = 20% > 0% 18% 2%
37) as 0 0 0 1 = 7/6/5 bey ==========
47) and 4(1)0 0 0 = 7/6/5 bey all = 100%) 40% 58% 2%
==========
10 other/50 deletions
= 20%

APPENDIX B:

PRODUCTION OF THE PILOT CLOZE PASSAGE FORMS

The following procedure sets out a reasonably efficient way to make the various modifications of the cloze passages in the present research. As technology improves the process should become even easier.

TABLE B
METHOD OF COLOR-CODING AND PRINTING PASSAGES FOR FIVE CLASSES

How to make the standard cloze procedure Format for cloze passages 1 - 8.

1. Create a file and call it by the name of the cloze passage, e.g. "Fox".
2. Type out the cloze passage using a word processing program, entitling it the name of the passage, e.g. Fox Passage.
3. Make a copy of the passage within the file and label the copied portion (Fox)*blank.
4. Using (Fox)*blank,
   a) put an * before every word which is to be deleted;
   b) then go to the search and replace function and replace the * with a 15 space blank;
   c) press "all" and all the *s will be replaced with a 15 space line;
   d) save the amended file.

5. Make a copy of the completed (Fox)*blank and call the new portion (Fox)Form-1.
6. Using (Fox)Form-1,
   a) delete one by one the words immediately after the blank;
   b) then start at the first blank and number it two spaces before as "1)";
   c) continue numbering the subsequent blanks "2)", "3)", etc. (This will give you the standard cloze procedure Format);.
   d) save the amended file. ((Fox)Form-1 is now ready to be printed.)

B. How to make Form 4 (the standard cloze Format with color-coded cloze blanks and words) for passages 2 - 7.

1. Within the file, copy (Fox)Form-1. and call the copy (Fox)-Form 3/4.
2. Using (Fox)Form-3/4,
   a) before each word or blank designate a color according to the part of speech represented by that word or blank;
   b) (Color designations made with a Star color-printer require a printer code to be placed before the intended color change.) using the appropriate coding from Table B.1 below, type the appropriate abbreviated symbol before each word and blank.

TABLE B.1
MEANINGS OF THE SYMBOLS USED FOR CODING

Part of Speech Symbol	Color	Abbreviated	Printer Code
NOUN	blue	@	((C))2.....
VERB	red	#	((C))1
ADJECTIVE	green	$	((C))6
ADVERB	violet	%	((C))3
OTHER	black	^	((C))0

c) save the file.

3. To make Form 4, copy (Fox)Form-3/4 and call the copy (Fox)Form-4.

4. Using (Fox)Form-4,

   a) use the search-and-replace function to replace each abbreviated symbol with the printer code necessary for the printer to color the words and blanks;

   b) when all the printer codes are in place, save the file. (Passage (Fox)Form-4 is now ready to be printed on the Star color-printer.)

D. How to make Form 3 (the standard cloze procedure with all blanks and words colored randomly).

1. Make another copy within the file of (Fox)Form-3/4, before each word or blank randomly designate a color using the codes for the Star color printer.

2. Call the new copy (Fox)Form-3.

E. How to make Form 2 (the standard cloze with all blanks color coded) for passages 2 - 7.

1. Copy (Fox)Form-3/4 and call the new copy (Fox)Form-2
2. In order to set up the printer codes to color the blanks,
   a) after each abbreviated symbol for the blanks insert a "b";
   b) then go to the search-and-replace function and replace each (symbol)b with the appropriate printer code as in the code table above;
   c) save the file.
3. Next to remove the remaining unnecessary abbreviated symbols,
   a) go to the search-and-replace function and replace each symbol with a " ";
   b) save the file. (Passage (Fox)Form-2 is now ready for the Star color-printer.)

F. How to print the four variations of the standard cloze passages for passages 2 -7.

1. Cloze passage Form 1 can be printed on any IBM-compatible printer.
2. Forms 2, 3 and 4 can be printed on the Star NX1000R, NX1000CL, or LC10CL color printers.

G. The number of copies of the Forms to be made.

Form 4 = 25 copies/passage all color coded

Form 3 = 25 copies/passage all randomly colored

Form 2 = 25 copies/passage blanks colored

Form 1 = 25 copies/passage nothing colored

Subtotal = 100 copies/passages

x 6 passages (passages 2 to 7)

Subtotal = 600 copies

+ 200 copies (100 Form 1 pretest, 100 Form 1 posttest)

Total = 800 copies for 100 students

APPENDIX C:

DISTRIBUTION OF THE RESEARCH TASKS

The Role of the Researcher

TABLE C
ROLE OF THE RESEARCHER

---

1. Before day 1

   - the researcher will prepare the tests, the the test booklets, and the pencils. He will also orient the teachers as to the duties during the test sessions.

2. Day 1:

   a) before the class the researcher will give the test booklets and the pencils to the teachers.

   b) after the test the researcher will collect the test booklets and pencils.

   c) then the researcher will type test answers into the data base score sheet for each student, calculate the scores for each blank (both exact and weighted), add the scores to get totals, rank the students according to the exact score, assign the students to their appropriate group and rank within the group, and choose the passage form accordingly.

   d) then the researcher will take out test one from the students' booklets and replace with the assigned form of test 2.

Day 2:

a) before the class the researcher will give the test booklets and the pencils to the teachers.

b) after the test the researcher will collect the test booklets and pencils.

c) then the researcher will type test answers into the data base score sheet, calculate scores for each student.

d) next the researcher will take out test one from the students' booklets and replace with the assigned form of test 3.

4. Day 3 through day 7:

a) the researcher will give to the teacher 20 copies of the undeleted passage of the previous test

b) the researcher will repeat the same routine as for day 2, except he will go to the subsequent test.

5. Day 8:

a) before the class the researcher will give the teacher the test booklets

b) after the class the researcher will thank the students and teacher.

c) then he will collect the booklets, questionnaires and pencils.

6. Finale:

   a) the researcher will take the data and calculate it all, analyze it, and draw conclusions.

   b) the researcher will meet with the teachers and discuss the data and conclusions.

Instructions for Teachers

TABLE D
INSTRUCTIONS FOR TEACHERS

ADMINISTERING THE CLOZE RESEARCH

I. GENERAL STATEMENT

This research requires eight sessions, two per week. Each session should take about 45 minutes to administer the day's cloze passage, which includes 30 minutes for the test and 15 minutes for instructions, distribution, and collection of the tests. The task of the teacher is to hand out pencils and test booklets, to read the instructions to the students given in their booklets, watch the students to see they are doing their own work, to keep the students informed of the remaining time (every five minutes), to collect the booklets and pencils, and after the third cloze test onward to hand out the previous sessions undeleted passage which after five minutes is to be collected again.

II. DETAILED STATEMENT

Day 1:

a) Please explain to the students that they are going to help in an E.S.L. research project, that their work will be anonymous, and that they must treat the research as an official test and act according to

standard test behavior, i.e. no collaboration with other students.

b) Tell the students that there will be eight tests, for each of which they will be given half an hour. Also tell them that if they can get 20 blanks correct out of 50, then they are doing reasonably well.

c) Hand out the pencils.

d) Hand out the booklets, telling the students to keep them closed until they are asked to turn to the instructions and suggestions on page 1.

e) When all the students have a test booklet tell the students to write a three-figure number plus the initials of their mother or father on the front of their booklet. Tell them to keep a copy of the number and initials in their purse, wallet, etc. for the next sessions when the booklets will be returned to them.

f) Read the instructions to the students as they silently read along and make sure they understand them. (Try to remember their questions for subsequent recording.)

g) Read the guessing strategy to them as they read along silently. Answer any questions they have about the strategy. (Try to remember their questions for subsequent recording.)

h) Tell the students to open their booklets and to begin. Remind them they have 30 minutes to do the best they can on the test and that 20 blanks correct out of 50 is a reasonable score.

i) Watch the students to see they are doing their own work. Do not allow them to use their dictionaries.

j) While they are doing the test,

   i) write down on the back of this sheet the questions the students asked you about the instructions and suggestions,

   ii) write down the names of the students that are absent, (or their number-initial code), and

   iii) write on the board every five minutes the amount of time left for the test.

k) After 30 minutes tell the students to put their pencils down and to close their booklets.

l) Collect the booklets and pencils and remind the students to remember their number-initial code.

m) Thank the students for participating in the day's test and continue with your regular lesson.

n) Keep the pencils and booklets for the researcher who will pick them up on the same day.

o) When the researcher comes, ask any questions and give any suggestions or concerns you might have about the test and give him the booklets and pencils.

Day 2:

p) Please follow steps c, d, and f through o. Before this session the researcher will give you the

students' booklets. Display them on a table and ask the students one by one to tell you quietly his/her number-initial code and then hand him/her the corresponding booklet from the table.

Day 3:

q) Please follow steps c through l.

r) Hand out copies of the undeleted cloze passage from the previous day.

s) Let students look at the undeleted passage for about five minutes. Remind them that if they got 20 blanks right out of 50, then they are doing reasonably well.

t) Collect all the undeleted passages and keep them for the researcher.

u) Follow steps m through o.

Day 4 through 7:

v) Please follow the routine of day 3.

Day 8

w) Please follow steps c through l. (Do not hand out the undeleted passage from day 7.)

x) Hand out a questionnaire to each student.

y) Give the students about 10 minutes to fill them out and then collect them.

z) Follow steps m through o to complete your part in the research project.

Thank you very much for your co-operation. You will receive a summation of the results when this thesis is completed.

Instructions for Students

TABLE E
INSTRUCTIONS FOR STUDENTS

Thank you for participating in this research project. Today you are going to have one of eight cloze tests that will be given to you in a period of four weeks. Your task is to fill in the blanks with the best word you can think of. Do your best. If you can get 20 blanks correct out of 50, then you will have done reasonably well.

A. GENERAL INSTRUCTIONS:

1. Please do not put your name on the booklet. Instead, think of any three figure number, eg. 123 and write it down in the upper left hand corner on the front of this booklets cover. Before your number write the initials of your father or mother, eg, FGS for Frank George Smith. The example looks like this: FGS 123. This method will identify your booklet, but will protect your identity.

   Please make a note of your identity code as you will need it for the other tests in this research project.

2. For this cloze test you will have 30 minutes. Every ten minutes your teacher will write on the board how much time there is left for you to complete the test.

3. As this test is for research purposes it is important that you do your own work. Remember that the test will not be counted for your own personal grade, so do not worry if you find some parts of the test difficult.

4. In this test and all the cloze tests try to do your best. The harder you try, the more benefit you will get from your effort.

B. SPECIFIC INSTRUCTIONS:

1. With your pencil fill in as many blanks as you can with the best answer you can think of.

2. Follow these suggestions.

   a) read the first and last sentences of the unmutilated text to determine the gist (main idea) of the passage.
   b) then skim the mutilated text trying to get clues to the gist.
   c) read from the beginning to the end of the text, trying to find meanings for the omitted words by checking context clues before or after the omitted

words or from general knowledge related to the text.

d) Finally, reread the entire text when you have guessed all or most of the words, filling in words previously not guessed or correcting words already guessed in terms of the total text.

TABLE F
SPECIAL INSTRUCTIONS FOR STUDENTS USING COMPLETELY-COLOR-CODED PASSAGES (FORM 4) AND COLOR-CODED BLANKS (FORM 2)

SPECIAL INSTRUCTIONS:

(Teacher cannot read any of the special instructions.) (This is for the students who are practicing with the color coding.)

The following passage is color coded to help you to find clues to be able to fill in the blanks. The color coding means as follows:

BLUE	= Nouns:	student; Bob; Tokyo; school; science...
.	= Pronouns:	I, he; me, her...
RED	= Verbs:	go, study, think; went; will study...
GREEN	= Adjectives:	big; my, his; this; a, the; no...
PURPLE	= Adverbs:	quickly; today, then; there; very...
BLACK	= Other:	and, or; in, on; where, how; not...

APPENDIX D:
SPREADSHEET CHART FOR DATA COLLECTION AND DETERMINATION OF SCORES

For Collection of Answers an Determination of Scores

TABLE G
ANSWER COLLECTION AND BLANK SCORE DETERMINATION CHART

Page 1

TOTAL PRETEST	TEST 2 TOTAL
MEAN EXACT MTH	MEAN EXACT MTH
MEAN ACCEP MTH	MEAN ACCEP MTH

Page 1

SCORES FOR BLANKS

POINTS FOR.....	EXACT WORD	Exact Mth = 1	
EXPLANATION.....	CLUE LOCATION	same wrd	: diff wrd
POINTS FOR	T1:not in passage	T:10/9/8	
TYPES OF CLUE.....	T2: beyond senten	T:7/6/5	: 8/7/6
T3: within senten	T:5/4/4	: 6/5/5	

Cloze Form 4	1A4a: Student 1 Class A Group 4 Level a
(everything	2A4b: Student 2 Class A Group 4 Level b
color coded)	3A4c: Student 3 Class A Group 4 Level c
	4A4d: Student 4 Class A Group 4 Level d
	5A4e: Student 5 Class A Group 4 Level e

MEAN EXACT MTH

MEAN ACCEP MTH

Cloze Form 3 6A3a: Student 6 Class A Group 3 Level a

(everything.....7A3b: Student 7 Class A Group 3 Level b

color coded 8A3c: Student 8 Class A Group 3 Level c

randomly) 9A3d: Student 9 Class A Group 3 Level d

10A3e: Student10 Class A Group 3 Level e

MEAN EXACT MTH

MEAN ACCEP MTH

Cloze Form 2 11A2a

(blanks 12A2b

color coded) 13A2c

14A2d

15A2e

MEAN EXACT MTH

MEAN ACCEP MTH

Cloze Form 1 16A1a

(Standard 17A1b

cloze).....18A1c

19A1d

20A1e

MEAN EXACT MTH

MEAN ACCEP MTH

Cloze Form 4	21B4a
	22B4b
	23B4c
	24B4d
	25B4e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 3	26B3a
	27B3b
	28B3c
	29B3d
	30B3e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 2	31B2a
	32B2b
	33B2c
	34B2d
	35B2e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 1	36B1a
	37B1b
	38B1c
	39B1d
	40B1e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 4	41C4a
	42C4b
	43C4c
	44C4d
	45C4e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 3	46C3a
	47C3b
	48C3c
	49C3d
	50C3e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 2	51C2a
	52C2b
	53C2c
	54C2d
	55C2e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 1	56C1a
	57C1b
	58C1c
	59C1d
	60C1e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 4	60D4a
	61D4b
	62D4c
	63D4d
	64D4e
MEAN EXACT MTH	
MEAN ACCEP MTH	

Cloze Form 3 65D3a

66D3b

67D3c

68D3d

69D3e

MEAN EXACT MTH

MEAN ACCEP MTH

Cloze Form 2 70D2a

71D2b

72D2c

73D2d

74D2e

MEAN EXACT MTH

MEAN ACCEP MTH

and so on to

100E1e

MEAN EXACT MTH

MEAN ACCEP MTH

page 1

BLANK 1	B2	B3
his 0004	son 000(1)	He 10002
same	same	same
T:10/9/8		
T:7/6/5		T:7/6/5

APPENDIX E:
THE MAIN PROJECT PASSAGES

The Main Project Passages

Pre-test: Perspectives

Test 2: The Question of Society

Test 3: Ethnicity

Test 4: Uniqueness

Test 5:... Polity

Test 6: Identity

Post-test: Perspectives

The Original Texts

Pre-test: Perspectives

There are three dominant perspectives for understanding a society.

The first perspective attempts to determine how a society holds together as an entity. This perspective is known as functionalism because whatever aspect of society is analyzed, the object is to determine how that structural feature contributes to the integration of the society. For example, broadcasting can be assessed in terms of how it contributes to national unity, or conversely, disunity. Do Canadian radio stations give priority to recordings by Canadian artists so that Canadian culture is developed, or does the American music industry dominate? Is hockey Canada's national sport, bringing Canada together, or, because there are more National Hockey League teams in the United States than in Canada, does hockey does hockey

contribute to North American continental integration? How important are a national anthem and a flag to the development of societal unity? What is the role of regionalism in creating sectional rather than societal unity? All of these questions focus on the function an aspect of society has in developing either cohesion or integration within the society, or in preventing such concensus from occurring.

The second perspective tends to see society less as an on-going equilibrium than as a struggle between conflicting groups. This is known as the conflict' perspective because its focus is on what groups have power within a society, what groups possess less power, and how the use of that power determines what a society is like. Terms like dominance and subordination, center and periphery, and wealth and poverty all express different relationships between people within a society. For example, the fact that persons of British descent have historically had more power in Canadian society than persons of French descent, created a set of institutions in Canada expressing a British heritage and a form of communications in which English was dominant. But evidence of power struggles are found among both language groups regarding whose definition of what Canadian society should be like will dominate.

Test 2: The Question of Society

It may seem ironic that even though the Canadian state is over one hundred years old, the precise nature of Canadian society and its existence as an entity is still in question. In fact, the stormy years after the centennial birthday in 1967 suggested more than ever that the concept of a Canadian society could not be taken for granted. While Quebec was contemplating what degree of distance from the rest of Canadian society was most appropriate, The Symons Report was concluding that Canadians knew little about their own society, and a Federal Task Force on Canadian Unity was scouring the country for clues about ways to create a more integrated and cohesive society. More recently, the debate prompted by the Meech Lake Accord whereby Quebec sought recognition for its status as a "distinct society" created controversy that again suggested the fragility of national unity. What kind of society is this that has been problematic for so long?

The use of the term "Canadian society" implies that it can be differentiated from other societies and that it has some measure of internal coherence. Yet there seems to be evidence to suggest that internal coherence in Canadian society has been in continual question. Repeated waves of immigration and emigration, British and American influences, French-English differences, a relatively sparse but clustered population in a vast territory, and uneven economic development are only some of the factors that have contributed to fragmentation rather than societal unity.

It is therefore, by no means certain that there really is such a thing as a Canadian Society. Does the strength of the various small scale sub-societies in Canada preclude any meaningful discussion about Canadian society as a whole? Do differences in the resident population overwhelm whatever may be held in common.

Canada exists as a nation by the political and legislative degree of the British North America Act passed by the British parliament in 1867. This legislative document created an independent national unity.

Test 3: Ethnicity

Perhaps the most dominant feature of the "New World as opposed to the "Old" Word, as seen through European eyes, was the vast amount of sparsely settled territory in the "New" World. It is this basic fact of a relatively small population in an enormous area, compared to the crowded "Old" World, in combination with the expansionist ambitions of European powers, that predestined ethnicity to be a salient issue in the building of Canadian society. First it was the contact of European cultures with Native Peoples, then the intermingling of European peoples with each other in the new land, and now more recently, immigration from new source areas such as Asia and South America. Even after years of residence in Canada, the government policy of multiculturalism encourages members of the society to remember, rediscover, or retain their ethnic origins. Clearly, ethnicity has been, and continues to be, a significant feature of Canadian society!

Ethnicity is an amalgam of objective factors relating to place of birth, citizenship, mother tongue, and customs and traditions which are transmitted through a person's heritage and characterize that individual. In the Canadian experience, ethnicity is frequently rooted in reference to another nation-state which provides a "foreign" dimension to the concept. But ethnicity does not only involve these objective traits such as language and customs; it also involves a subjective element pertaining to how people view

themselves, i.e., their ethnic identity. There is a difference, then, not only in whether a person speaks Italian or English, or whether that person is a citizen of Canada or Italy, but also whether the person embraces an identity as "Italian," "Italian-Canadian," Canadian, or even Canadian. Each alternative tells us something important about that person in relation to the wider society.

The diversity of contemporary responses people give to the objective and subjective facts of their background makes the analysis of ethnicity both a dynamic and essential for the understanding of Canadian society.

Test 4: Uniqueness

One of the best ways to learn about a society is to compare it with other societies. Such comparisons are important because, while each society is unique and no two societies are identical, there is a tendency to assume that the society under review has few parallels elsewhere. This is particularly the case for people who live in Canada, who are caught up in the internal struggles of Canada's societal problems, or who are trying to resolve them as if they had never been experienced anywhere before. A comparative analysis helps us to see that there are other societies with similar problems for which similar or different solutions have been found. For those studying Canadian society from the outside, it is also important to see linkages to other societies with which they may be familiar through the media

or personal experience. In sum, a comparative focus enables us to place a society in a global context which sharpens our ability to identify distinctives and similarities. Not only ar our horizons broadened, but we are able to understand the dynamics of Canadian society in a new way.

No attempt is made in this chapter it exhaustively detail the many ways in which Canadian society contrasts with other societies. In fact, some of the contrasts will remain implicit or weakly developed because social scientists have not engaged in much comparative work as such work is both difficult and complex. Yet it is possible to identify some of the characteristic features of Canadian society, to look for parallels in other societies, and to outline some of their significance and meaning in that social context.

We have already seen that the nature of Canada's land surface, settlement history, population distribution, and regional differences has produced a society with its own character. We have also noted that the variables such as social class, ethnicity, language, religion, and occupation add a dynamic to these formative features. What has been the experience of other societies where similar factors are present?

Test 5: Polity

If you want to create some controversy in a group of Canadian people, there is no faster way to do it than to

bring up the issue of bilingualism. Everyone has an opinion about bilingualism and everyone also has stories or anecdotes to tell from everyday life to justify their position. Whether it is hearing a bilingual version of "O Canada," hearing two seets of preflight instructions on an airplane, or seeing a simultaneous translation of a document or instructional sign, bilingualism is an issue many Canadians are still grappling with because it is foreign to the unilingual manner in which most people live their lives.

It is frequently assumed that most countries operate with one dominant universal language. Many Canadians, for example, are aware that the United States has taken as many immigrant peoples utilizing numerous languages, but they not that one language (English) is still used as the primary means of communication. What is perhaps less well-known is that the large influx of Spanish-speaking peoples into the southern United States in recent years has created a real battle in some areas (e.g., California and Florida) over whether two languages (English and Spanish) should be endorsed. The national English-speaking has so far successfully argued that unilingualism should be the American norm. The facts of Canadian history and polity, however, are somewhat different, though there is a tendency for people to assume that unilingualism ought to be the normal pattern in Canada as well.

But if unilingualism is the norm in many countries, are there countries where more than one language is officially

recognized, or does Canada stand alone on this issue? WE have already seen that regional ethnic majorities may support a language distinct from the official language. The Soviet Union, for example, has several regions where ethnic groups possess a distinct language (e.g., the Ukraine and Moldavia). It is possible for countries to officially recognize the existence of more than one language as a basis for communication within their society as a whole?

Test 6: Identity

It is the commonality of sharing a territory (in spite of its size) and participating in its polity (in spite of its inequities) that makes the country's residents Canadian. In other words, it is the collective interaction of people who share the symbol "Canadian" that creates a national identity. A social identity is the sum of the sentiments, cultural attributes, and structural arrangements people share which gives them a feeling that they belong together. Individuals and groups create and contribute to that identity, but they can also internalize the national identity into their personal definition of themselves (though to varying degrees). A societal identity, then, has a collective component as well as an individual dimension. For this reason, it is possible to speak of the residents of Canada forming a national society, and individual members accepting that collective identity as something that is personally meaningful.

But there is a second aspect to being part of a national collectivity; that is, we learn what it means to be part of Canadian society by distinguishing this society from other societies. One study found that members of Canadian society became more aware of their national identity through interacting with foreigners. It could also be argued that state negotiations with other societies make Canadians more aware of their national interests. The point is that a national identity can coagulate as a result of external

relationships, and as a consequence this external dialogue, a society may become more aware of its internal relationships or the concerns its people share.

There is also a third aspect to national identity. One perception of a national identity is merely that a distinctive identity emerges as things as they are (descriptive). For example, no society has quite the same relationship between anglophones and francophones as Canada does, and for better or worse, that is what gives Canadian society its identity. But another perspective is far more prescriptive, suggesting vision and ideals about what Canadian society should be.

Color-coding is used to help you find clues to fill in the blanks.

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Green	= Adjectives:	big; my, his; this; a, the; no...
Purple	= Adverbs:	quickly; today, then; there; very...
Black	= Other:	and, or; in, on...

CANADIAN SOCIETY: The Question of Society

It may seem ironic that even though the Canadian state is over one hundred years old, the precise nature of Canadian society and its existence as an entity is still in question. In fact, the 1)_____ years after the centennial birthday 2)_____ 1967 suggested more than ever that the concept of a 3)_____ society could not be 4)_____ for granted. While Quebec 5)_____ contemplating what degree of 6)_____ from the 7)_____ of Canadian society was 8)_____ appropriate, the Symons Report 9)_____ concluding that Canadians 10)_____ little about their own 11)_____, and a Federal Task Force on Canadian 12)_____ was scouring the coutry for 13)_____ about ways to 14)_____ a more integrated and 15)_____ society. More recently, the 16)_____ prompted by the Meech Lake Accord whereby 17)_____ sought recognition for its status as a "distinct 18)_____" created controversy that again 19)_____ the fragility of 20)_____ unity. What kind of

society 21)_____ this that has been 22)_____ for so long?

The 23)_____ of the term "Canadian 24)_____" implies that it can be 25)_____ from other societies and 26)_____ it has some measure 27)_____ internal coherence. Yet there 28)_____ to be evidence to 29)_____ that internal 30)_____ in Canadian society has been in continual 31)_____. Repeated waves of immigration and emigration, 32)_____ and American influences, French-English differences, a 33)_____ sparse but clustered population in a vast 34)_____, and uneven economic development are only 35)_____ of the factors that have 36)_____ to fragmentation rather than societal 37)_____.

It is, therefore, by no means 38)_____ that there really is 39)_____ a thing as a Canadian society. 40)_____ the strength of the various 41)_____ scale sub-societies in Canada preclude any meaningful 42)_____ about Canadian 43)_____ as a whole? Do 44)_____ in the resident 45)_____ overwhelm whatever 46)_____ be held in common?

47)_____ exists as a nation by the 48)_____ and 49)_____ decree of the *British North America Act* passed by the 50)_____ parliament in 1867. This legislative document created an independent national unity.

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The Issue of Ethnicity

Perhaps the most dominant feature of the "New World as opposed to the "Old" World, as seen through European eyes, was the vast amount of sparsely settled territory in the "New" World. It is this 1)_____ fact of a relatively 2)_____ population in an enormous 3)_____, compared to the crowded "Old" 4)_____, in combination 5)_____ the expansionis ambitions of 6)_____ powers, that predestined ethnicity 7)_____ be a salient issue 8)_____ the building of Canadian society. First it 9)_____ the contact of European 10)_____ with Native Peoples, 11)_____ the intermingling of European 12)_____ with each other 13)_____ the new land, and now 14)_____ recently, immigration from 15)_____ source areas such 16)_____ Asia and South 17)_____. Even after years 18)_____ residence in Canada, the government policy of 19)_____ encourages members of the 20)_____ to remember, rediscover, 21)_____ retain 22)_____ ethnic origins. Clearly, ethnicity has been, and

23)_____ to be, a significant feature of

24)_____ society.

Ethnicity is an amalgam of 25)_____ factors relating to place of birth, 26)_____, mother tongue, and customs and 27)_____ which are transmitted 28)_____ a 29)_____ heritage and characterize that individual. In 30)_____ Canadian experience, 31)_____ is frequently rooted in reference 32)_____ another nation-state 33)_____ provides a "foreign" dimension to the 34)_____. But ethnicity does not only 35)_____ these objective traits such as language and 36)_____; it also involves a 37)_____ element pertaining to how 38)_____ view themselves, i.e., their 39)_____ identity. There is a difference, then, not 40)_____ in whether a person speaks Italian or 41)_____, or whether that 42)_____ is a citizen of 43)_____ or Italy, but also 44)_____ the person embraces an 45)_____ as "Italian," "Italian-46)_____," Canadian, or even Canadian. 47)_____

alternative tells us 48)_____ important about that 49)_____ in relation to the wider 50)_____.

The diversity of contemporary responses people give to the objective and subjective facts of their background makes the analysis of ethnicity both a dynamic and essential for the understanding of Canadian society.

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The Question of Uniqueness

One of the best ways to learn about a society is to compare it with other societies. Such comparisons 1)_____ important because, while each 2)_____ i unique and no two 3)_____ are identical, 4)_____ is a tendency to 5)_____ that the society under review has 6)_____ parallels elsewhere. This 7)_____ particularly the case 8)_____ people who live in Canada, 9)_____ are caught up in the internal 10)_____ of Canada's societal problems, 11)_____ who are trying to resolve 12)_____ as if they 13)_____ never been 14)_____ anywhere before. A comparative analysis helps us to 15)_____ that there are other 16)_____ with similar problems for which 17)_____ or different solutions have been found. For those studying Canadian society from the outside, 18)_____ is also 19)_____ to see linkages to 20)_____ societies with which 21)_____ may be familiar 22)_____ the media or personal 23)_____. In sum, a 24)_____ focus enables 25)_____ to place a society in a global

context which 26)_____ our ability to identify distinctives and 27)_____. Not only are 28)_____ horizons broadened, 29)_____ we are able to 30)_____ the dynamics of Canadian society in a new 31)_____.

No attempt 32)_____ made in 33)_____ chapter to exhaustively detail the many ways in which Canadian society contrasts with 34)_____ societies. In fact, some of the contrasts 35)_____ remain implicit or weakly developed because social scientists 36)_____ not engaged in much comparative work as such 37)_____ is both difficult and 38)_____. Yet it is possible to 39)_____ some of the characteristic features of 40)_____ society, to look for parallels in other societies, 41)_____ to outline some of 42)_____ significance and meaning in that 43)_____ context.

We have already 44)_____ that the nature of Canada's land surface, settlement history, population distribution, and regional 45)_____ has produced a 46)_____ with its own character. 47)_____ have also noted that variables 48)_____ as social class, ethnicity, 49)_____, religion, and occupation add a dynamic to 50)_____ formative features. What has been the experience of other societies where similar factors are present?

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Polities With More Than One Official Language: an Introduction

If you want to create some controversy in a group of Canadian people, there is no faster way to do it than to bring up the issue of bilingualism. Everyone 1)_____ an opinion about 2)_____ and 3)_____ also has stories or anecdotes to 4)_____ from everyday 5)_____ to justify 6)_____ position. Whether it is hearing a bilingual version of "O Canada," 7)_____ two sets of preflight 8)_____ on an 9)_____, or seeing a simultaneous translation 10)_____ a document or instructional sign, bilingualism is an 11)_____ many Canadians are still grappling 12)_____ because it is foreign to the unilingual 13)_____ in which most 14)_____ live their lives.

It is frequently 15)_____ that most countries operate with 16)_____ dominant universal language. Many 17)_____, for example, are 18)_____ that the United States 19)_____ taken as many immigrant peoples utilizing numerous languages, 20)_____ they note that one 21)_____ (English) is still 22)_____

as the primary 23)_____ of communication. What is 24)_____ less well-known is 25)_____ the large influx of Spanish-speaking 26)_____ into the southern United 27)_____ in recent 28)_____ has created a real battle in 29)_____ areas (e.g., California and Florida) over 30)_____ two languages (English and Spanish) should 31)_____ endorsed. The national 32)_____-speaking majority has so far successfully argued that unilingualism 33)_____ be the American 34)_____. The facts of Canadian history 35)_____ polity, however, are somewhat different, though 36)_____ is a tendency for 37)_____ to assume that 38)_____ ought to be the normal pattern in Canada as 39)_____.

But if unilingualism is the norm in many 40)_____, are there countries where more than one 41)_____ is officially recognized, or does 42)_____ stand alone on this issue? 43)_____ have already seen that 44)_____ ethnic majorities 45)_____ support a language distinct 46)_____ the official 47)_____. The Soviet Union, for 48)_____, has several regions where 49)_____ groups possess a 50)_____ language (e.g., the Ukraine and Moldavia). It is possible for countries to officially recognize the existence of more than one language as a basis for communication within their society as a whole?

Color-coding is used to help you find clues to fill in the blanks.

Blue	= Nouns:	student; Bob; Tokyo; school; science...
.....	= Pronouns:	I, he; me, her...
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Aspects of Societal Identity

It is the commonality of sharing a territory (in spite of its size) and participating in its polity (in spite of its inequities) that makes the country's residents Canadian. In other words, it 1)_____ the collective interaction of people 2)_____ share the symbol "Canadian" 3)_____ creates a national identity. 4)_____ *social identity* is the 5)_____ of the sentiments, cultural attributes, 6)_____ structural arrangements 7)_____ share which 8)_____ them a feeling that they belong 9)_____. Individuals and 10)_____ create 11)_____ contribute to that 12)_____, but they can also internalize the national identity 13)_____ their personal definition of 14)_____ (though to varying degrees). A 15)_____ identity, then, has a *collective* component 16)_____ well as an *individual* dimension. 17)_____ this reason, it is possible to 18)_____ of the residents of 19)_____ forming a 20)_____ society, and individual 21)_____

accepting that 22)_____ identity as something 23)_____ is personally meaningful.

But 24)_____ is a second aspect to being 25)_____ of a national collectivity; that is, 26)_____ learn what it means to be part of 27)_____ society by distinguishing this 28)_____ from other societies. One study found 29)_____ members of Canadian society became more aware of 30)_____ national identity through their travels outside the country and 31)_____ interacting with foreigners. It could 32)_____ be argued that state negotiations 33)_____ other societies make Canadians more 34)_____ of their national interests. The point 35)_____ that a national identity 36)_____ coagulate as a result of *external* relationships, 37)_____ as a consequence 38)_____ external dialogue, a society may become more aware 39)_____ its *internal* 40)_____ or the concerns its people 41)_____.

There is also a third 42)_____ to national identity. One perception of a 43)_____ identity is merely that a distinctive identity emerges 44)_____ thing as 45)_____ are *(descriptive)*. For 46)_____, n society 47)_____ quite the same relationship 48)_____ anglophones and francophones as Canada does, and for 49)_____ or worse, that is what gives 50)_____ society its identity. But another perspective is far more *prescriptive*, suggesting vision and ideals about what Canadian society *should* be.

Answer Key

Aspect of Societal Identity

It is the commonality of sharing a territory (in spite of its size) and participating in its polity (in spite of its inequities) that makes the country's residents Canadian. In other words, it 1) is the collective interaction of people 2) who share the symbol "Canadian" 3) that creates a national identity. 4) A social identity is the 5) sum of the sentiments, cultural attributes, 6) and structural arrangements 7) people share which 8) gives them a feeling that they belong 9) together. Individuals and 10) groups create 11) and contribute to that 12) identity, but they can also internalize the national identity 13) into their personal definition of 14) themselves (though to varying degrees). A 15) societal identity, then, has a collective component 16) as well as an individual dimension. 17) For this reason, it is possible to 18) speak of the residents of 19) Canada forming a 20) national society, and individual 21) member

accepting that 22) collective identity as something 23) that is personally meaningful.

But 24) there is a second aspect to being 25) part of a national collectivity; that is, 26) we learn what it means to be part of 27) Canadian society by distinguishing this 28) society from other societies. One study found 29) that members of Canadian society became more aware of 30) their national identity through their travels outside the country and 31) through interacting with foreigners. It could 32) also be argued that state negotiations 33) with other societies make Canadians more 34) aware of their national interests. The point 35) is that a national identity 36) can coagulate as a result of external relationships, 37) and as a consequence 38) this external dialogue, a society may become more aware 39) of its internal 40) relationships or the concerns its people 41) share.

There is also a third 42) aspect to national identity. One perception of a 43) national identity is merely that a distinctive identity emerges 44) from things as 45) they are (descriptive). For 46) example, no society 47) has quite the same relationship 48) between anglophones and francophones as Canada does, and for 49) better or worse, that is what gives 50) Canadian society its identity. But another perspective is far more prescriptive, suggesting vision and ideals about what Canadian society should be.

Sample of distribution of reiterative words

TABLE H
A SAMPLE OF HOW THE PASSAGES WERE ANALYZED FOR SELECTION OF THE MAXIMUM NUMBER OF REITERATIVE WORDS AND THEIR LOCATION

Perspectives

There are three dominant perspectives for understanding a society.

THE first°perspective°attempts to determine how a °society°holds together AS an entity. °This°perspective is °known°AS functionalism°because°whatever aspect°of°society is analyzed, the object is to°determine°how that structural feature°contributes°to the integration of°the°society. For example, broadcasting°can°be assessed in terms OF°how°it contributes to national unity, or conversely, disunity. Do Canadian radio stations°give°priority to recordings by °Canadian°artists so that_Canadian°culture°is developed, or DOES THE American music industry°dominate°? Is hockey Canada's national°sport°, bringing Canada°together°, or, because there are more National°Hockey°League teams in THE United States than in Canada, °does°hockey does hockey contribute to North American continental°integration°? How important are a°national°anthem and a°flag°to THE development of societal°unity°? What is THE role OF regionalism°in°creating sectional rather than societal unity? °All°of these questions focus on THE°function°an °aspect°of society has in°developing°either cohesion or integration within THE society, or in preventing such concensus from°occurring°.

THE second°perspective°tends to see society less°as°an on-going equilibrium°than°as a°struggle°between conflicting groups. This is known as the°'conflict'°perspective because its°focus°is on what groups have power within a society, what groups possess less°power°, and how THE use OF that power determines what a society is LIKE. °Terms°like dominance and subordination, center °and° periphery, and °like°wealth and poverty°all°express different relationships °between°people within a society. For°example°, THE fact that persons OF British°descent°have historically had more °POWER°in CANADIAN society than°persons°of French descent, created a set OF institutions in Canada expressing a°British°heritage AND a°form°OF communications in which English was°dominant°. But evidence OF POWER struggles are found among both language groups regarding whose definition OF what CANADIAN society should be like will dominate.

APPENDIX F:

PRODUCTION OF THE CLOZE PASSAGES

Step 1 Type out all the stories

Step 2 Code for parts of speech using one symbol for each corresponding color

(verb = !)

(noun = @)

(# = adverb)

(& = adjective)

(* = other parts of speech)

Using the word processor's "search and replace" function, a word can be replaced by itself plus the appropriate symbol in front. Using the "all" feature, all of the same word can be replaced in a second or so. Starting at the beginning of the first story, replace each word, one after the other. After a paragraph or two have been done, many words all the stories will have been coded. As more and more words are replaced the task becomes exponentially easier. Care must be taken with some words which can vary their part of speech by their position in the sentence. Words like "work" can change in part of speech in this way. Either be sensitive to such cases when replacing words with words and symbols, or check after the passages have been coded.

Step 3 Choose the words to be deleted and replace them with a question, number, and two short lines.

Step 4 After all the words have been deleted, replace the short blanks with the standard 15 space lines and make all characters bold.

Step 5 Replace the single symbols with the corresponding printer codes as follows:

! = ((C))1 = red = verb

@ = ((C))2 = blue = noun

= ((C))3 = purple = adverb

& = ((C))6 = green = adjective

Step 6 Use the "search and replace" function and replace all the printer codes with "0" to give all black print for the standard cloze for the control group.

Step 7 Use the "search and replace" function and replace all the printer codes with "0", "1", "2", 3", or "6" in a random fashion to give make the random for of the cloze procedure.

Step 8 Print with the Star NX1000 (or NX1020) rainbow printer using a colored ribbon.

TABLE I
COLLECTION AND BLANK SCORE DETERMINATION CHART
(MAIN PROJECT)

NAME OF PASSAGE:			
TYPE OF BLANK	(EXTERN) B1	INTER- B2	INTRA- B3
KEY WORD	***	######	&&&&&&
STUDENT IDENTITY			
Class 1			
JNK	1	$$$$$	&&&&&s
DAV	^^^^^	1	(empty)
APR	1	(empty)	1
Total:	2	1	1
Mean	.66	.33	.33
Class 3			
TM	(empty)	1	######
MM	1	1	&&&&&&s
HN	(empty)	(empty)	(empty)
Total:	1	2	0
Mean:	.33	.66	0

APPENDIX G:
COMPARISONS OF EXACT- AND ACCEPTABLE-WORD MEAN SCORES

TABLE J
EXACT- AND ACCEPTABLE-WORD MEAN SCORES
ALL BLANKS

Pre-test

Class 1	Class 3	
19.9	17.5	exact-word scores
23.2	22.3	acceptable-word scores

Test 2		Test 3		Test 4	
18.0	13.2	22.5	16.9	27.4	22.7
23.2	17.0	33.1	24.6	39.2	34.4

Test 5		Test 6	
27.6	26.0	29.3	25.5
37.7	32.8	39.7	32.7

Post-test

23.8	20.8
30.6	27.1

TABLE K
EXACT- AND ACCEPTABLE-WORD MEAN SCORES
INTRA-/INTER-SENTENTIAL

Pre-test

Class 1	Class 3	
15.2	13.2	exact-word scores
19.1	16.0	acceptable-word scores

Test 2		Test 3		Test 4	
15.6	10.6	19.8	15.1	22.5	18.2
18.4	12.2	28.0	20.6	30.3	26.0

Test 5		Test 6	
24.9	23.4	24.2	21.5
32.9	28.7	32.3	27.8

Post-test

19.9	16.5
30.6	27.0

TABLE L
EXACT- AND ACCEPTABLE-WORD MEAN SCORES
INTRA-SENTENTIAL

	Class 1	Class 3	
Pre-Test			
	5.1	4.4	exact-word scores
	5.8	5.0	acceptable-word scores

	Test 2		Test 3		Test 4	
	7.8	5.7	6.7	5.1	5.7	5.8
	9.5	5.7	7.6	6.4	6.0	6.5

	Test 5		Test 6	
	5.5	4.8	6.9	6.7
	5.4	5.5	9.8	9.1

Post-test		
	5.3	5.0
	12.5	12.9

TABLE M
EXACT- AND ACCEPTABLE-WORD MEAN SCORES
INTER-SENTENTIAL

Pre-test

10.1	8.8	exact-word scores
13.3	11.0	acceptable-word scores

Test 2		Test 3		Test 4	
7.8	4.9	13.1	10.0	16.8	12.4
8.9	6.5	20.4	14.2	24.3	19.5

Test 5		Test 6	
19.4	18.6	17.3	14.8
27.5	23.2	22.5	18.7

Post-test

14.6	11.5
18.1	14.1

APPENDIX H THE COLOR-CODED CLOZE PROCEDURE PROJECT

QUESTIONNAIRE

Thank you very much for participating in the Color-Coded Cloze Procedure Project. Now you have had the chance to practise the cloze procedure, you have the opportunity to share your ideas and feelings about the project.

1. Before this project had you ever done cloze exercises

   a) in Japan? Yes ___ No ___

   b) In Canada? Yes ___ No ___

   If yes, did you enjoy the cloze exercises?

   Yes ___ No ___

2.1 In the present project did you have any difficulties with exercises?

   Yes ___ No ___

2.2 Please check one. Did you find the cloze exercise(s) more difficult at the:

   a) beginning of the project, ___
   b) at the middle of the project, or ___
   c) at the end of the project? ___

2.3 Please check one. Did you find the cloze exercise(s) easiest at the:

   a) beginning of the project, ___
   b) at the middle of the project, or ___
   c) at the end of the project? ___

2.4 As you got more practice did you gain more confidence in doing the cloze exercises?

Yes ___ No ___

2.5 Did you have any problems seeing the words on the exercise papers?

Yes ___ No ___

If yes, what problems?

2.6 Do you think this project has helped you improve your ability to accurately guess missing words in a passage?

Yes ___ No ___

2.7 When trying to find words to fill in the blanks did you ever:

a) look in the sentence of the blank?

Yes ___ No ___

b) look in the sentence before the blank?

Yes ___ No ___

c) look in the sentence after the blank?

Yes ___ No ___

d) use your knowledge of the topic?

Yes ___ No ___

e) guess?

Yes ___ No ___

f) do something else?

Yes ___ No ___

If yes, what did you do?

2.8 Would you like to do cloze exercises in the future?

Yes ___ No ___

If yes, what changes would you like to be made?

2.9 Please write down any comments you have about anything in this project.

3.1* Did you practise the cloze exercises using color?

Yes ___ No ___

3.2 Did the color help you fill in the blanks?

Yes ___ No ___

3.3 Did the color make the exercises more difficult?

Yes ___ No ___

If yes, please circle the most difficult exercise(s).

a) the beginning exercises (#2 and #3)
b) the middle exercise (#4)
c) the end exercises (#5 and #6)

3.4 Did the color make the exercises easier?

Yes ___ No ___

If yes, please circle the easiest exercise(s)?

a) the beginning exercises (#2 and #3)
b) the middle exercise (#4)
c) the end exercises (#5 and #6)

3.5 Did the color help you to find words to fill in the blanks, words that were:

a) within the sentence of the blank?

Yes ___ No ___

b) in a sentence before the sentence of the blank?

Yes ___ No ___

c) in a sentence after the sentence of the blank?

Yes ___ No ___

3.6 Do you think the colored exercises helped you to do the last exercise (uncolored)?

Yes ___ No ___

3.7 Please circle the type of cloze exercise you would prefer to do in the future?

a) non-colored cloze b) colored cloze

3.1** Did you practise the cloze exercises using the color-coded parts of speech?

Yes ___ No ___

3.2 Did the color-coded parts of speech help you fill in the blanks?

Yes ___ No ___

3.3 Did the color-coded parts of speech make the exercises more difficult?

Yes ___ No ___

If yes, please circle the exercise which was the most difficult.

a) the beginning exercises (#2 and #3)
b) the middle exercise (#4)
c) the end exercises (#5 and #6)

3.4 Did the color-coded parts of speech make the exercises easier?

Yes ___ No ___

If yes, please circle the easiest exercise(s)?

a) the beginning exercises (#2 and #3)
b) the middle exercise (#4)
c) the end exercises (#5 and #6)

3.5 Did the color-coded parts of speech help you find words to fill in the blanks, words that were:

a) within the sentence of the blank?

Yes ___ No ___

b) in a sentence before the sentence of the blank?

Yes ___ No ___

c) in a sentence after the sentence of the blank?

Yes ___ No ___

3.6 Do you think the color-coded exercises helped you to do the last exercise (uncolored)?

Yes ___ No ___

3.7 Please circle the type of cloze exercise you would

prefer to do in the future?

a) non-colored cloze b) color-coded cloze

---

* This section was for Class 2.

** This section was for Class 3

BIOGRAPHICAL INFORMATION

NAME: Howat Alan Labrum

MAILING ADDRESS: #241-13612 67th Avenue
Surrey, B.C.
V3W 6X5

PLACE AND DATE OF BIRTH: Vancouver, B.C., Canada
24/02/50

EDUCATION: (Colleges and Universities attended, dates, and degrees)

The University of British Columbia Bachelor of Arts 1972

The University of British Columbia Diploma in Adult Education 1973

POSITIONS HELD:

Supervisor of E.S.L teachers, United Nations Refugee Program

E.S.L. teacher in Canada, Thailand, Malaysia, and Saudi Arabia

PUBLICATIONS:

AWARDS: