

EFFECTS OF DIFFERING PROPORTIONS OF
UNKNOWN VOCABULARY ON SECOND LANGUAGE
READING COMPREHENSION

CENTRE FOR NEWFOUNDLAND STUDIES

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EFFECTS OF DIFFERING PROPORTIONS OF
UNKNOWN VOCABULARY ON
SECOND LANGUAGE READING COMPREHENSION

by
Marilyn Reid

A thesis
submitted in partial fulfillment
of the requirements for a Master's degree in curriculum
in the Faculty of Education
Memorial University of Newfoundland
September 1989



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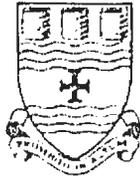
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The study was designed to assess the effects of unknown vocabulary on second language reading comprehension. Sixty-eight Grade 10 core French second language students took multiple choice comprehension tests on three passages, each of which involved differing proportions of unknown vocabulary. In the control condition the passages had no unknown words. In the medium condition one in 10 substance words were substituted with unknown vocabulary and in the difficult condition a substitution rate of one in six substance words was used. It was found that students performed significantly better on the control condition than on the other two ($p < .05$). No differences were found between the medium and difficult conditions.

Results confirm the high correlations consistently found between vocabulary knowledge and reading comprehension and suggest that second language students are linguistically bound to the text. The theoretical implications for current interactive models of reading are discussed and classroom and curricular strategies are suggested for overcoming or circumventing difficulties in reading comprehension caused by vocabulary difficulty.

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Chapter 1

Introduction

The Problem - An Instructional Perspective

The 1980s have been witness to the rapid growth of French immersion education across Canada. In Newfoundland alone, enrollment in French immersion programs has risen from 392 in 1980 to 3,488 in 1989 (Newfoundland and Labrador Department of Education, 1989), and 'immersion' has become a household word for many families and educators.

Students enrolled in these programs undergo a large part of their schooling through the medium of French. This means that, in addition to French language and grammar, they study subjects such as mathematics, history and science in French. The underlying assumption of this educational experience, as clarified by Swain and Lapkin (cited in Tardif & Weber, 1987) is

"that the immersion students' education should be the same as that of students in regular English programs offered in any given school system, with the only major difference being the language through which the teacher and students communicate in the classroom" (p. 4).

The verification of this assumption has generated research examining the linguistic and academic consequences of French immersion. In particular, studies have attempted to compare the reading, writing, listening and speaking skills of early and late immersion students with those of students enrolled in regular unilingual programs, both French and English.

With respect to reading skills, Swain and Lapkin (1986) compared grade 9 and 10 immersion students with native French speakers of a similar age. Their results indicate that immersion students fall between the 30th and 40th percentile on tests normed on francophone populations.

In a related study, Carey (1987) reports that immersion students' French reading comprehension of academic material is lower than their English reading comprehension of these materials at all grade levels. If these results are substantiated by further research findings, it would appear that there are important problems in second language reading comprehension that need to be addressed.

Students enrolled in immersion programs face reading problems unique to their educational experience. Because publishing houses have generally not targeted them as a distinct group with distinct limitations and needs they must often use resources developed for the francophone population. Although there may be many advantages to using 'les documents authentiques' one disadvantage relates to vocabulary knowledge. Immersion students, particularly those who do not live in a bilingual milieu, will probably have a substantially smaller vocabulary range than Francophones of a similar age. The question arises: To what extent does this restricted vocabulary range interfere with reading comprehension?

While there is general agreement among second language teachers that vocabulary is an important component of the

reading process a lot of research has not been generated in this area. There appears, therefore, to be a need for an empirical study that would attempt to clarify and quantify the role of vocabulary knowledge in second language reading comprehension.

Such a study could have implications for French immersion education in this country. If vocabulary knowledge were identified as a problematic feature specific to second language reading comprehension this could lead to a re-examination of its role by educators and publishing houses.

The Problem - A Theoretical Perspective

In general, researchers in second language reading now assert that the reading process entails the interaction between a number of factors or components common to both first and second languages. These include syntactic and lexical skills (including vocabulary range), individual facility with various reading strategies (such as predicting and inferring), background knowledge of the subject matter in the text and the affective domain of the reader (such as aptitude and motivation).

The concept of an interactive model of reading has evolved out of three theories developed over the last 25 years. Decoding theory, psycholinguistics and schema theory have different explanations for how people read and of the importance of each of the above components in the reading

process.

Decoding theorists, in placing an emphasis on word recognition, syntax and lexical knowledge, have generally considered that reading is parasitic on language (Mattingly, 1972). Because reading breakdown occurs first at the level of language, vocabulary and grammar are emphasized as essential ingredients in the reading process. Mattingly suggests that, to proceed through and decode a text, the reader must first have an extensive vocabulary acquired through previous reading experience. If this sight vocabulary fails the reader, he/she must then be ready with strategies to identify the word, synthesize the sentence and finally derive the appropriate semantic representation.

The formulation of psycholinguistic theory has provided further insights into the reading process. While psycholinguistic theory does not discount language knowledge (the code), it tends to downplay its importance. Instead, it emphasizes the importance of the reader's use of contextual information.

Kenneth Goodman (1967) describes reading as a psycholinguistic guessing game. In Goodman's view, reading is a cyclical process of selection, prediction and confirmation, in which the reader first decodes the language by taking advantage of the redundancy inherent in the text to guess or predict the message. Once this reconstruction of the text has taken place the reader verifies its accuracy against previous information. Previous information can be

any information extracted from the text as well as the reader's background knowledge on the topic of the text.

In the late 1970's the role of background knowledge in language was more clearly formulated in schema theory. One of the fundamental tenets of schema theory is that comprehending a text is an interactive process between the reader's background knowledge and the text. To comprehend efficiently, the reader relies on an ability to relate the textual material to his/her background knowledge. This knowledge can be linguistic information, such as the degree to which the lexical items in the text reveal the content area, prior knowledge in the content area of the text or prior knowledge that the text is about a particular content area (Carrell, 1983c). The schemata can be activated by linguistic and situational cues as well as by the expectations a reader has about what he is reading.

Decoding, psycholinguistic and schema theories clearly consider differently the importance of lexicon and syntax in reading comprehension. Decoding theory emphasizes knowledge of vocabulary while psycholinguistic and schema theory tend to downgrade its importance by suggesting that other factors, such as contextual clues and background knowledge, are more important than structures and patterns which are in the text. Recent views of reading, with their additional inclusion of the affective domain of the reader would appear also, while not to discount lexical access, at least to minimize its importance. Indeed, in terms of interactive models, it has

not yet been determined if a hierarchical structure can be imposed on all of the components that make up the reading process or if the interaction of reading skills is such that all are more or less equally important (Barnett 1986).

It should be remembered, however, that no theory has yet been clearly formulated specifically to explain the second language reading experience. Yorio (1971) suggests that reading strategies in the second language must be modified because new elements appear. He lists four factors linked to language knowledge distinct to the second language reading process which can interfere with comprehension: (1) the ability to guess or predict which is necessary to pick up correct cues is hindered by imperfect knowledge of the language; (2) uncertainty when selecting cues makes associations more difficult; (3) recollection of cues is more difficult in the second language because the memory span in the second language is usually shorter, at least in the early stages of development, than in the native language; (4) at all levels and at all times there is interference of the native language.

It is interesting to note that readers themselves have generally considered vocabulary knowledge to be the primary obstacle to second language reading comprehension. In questionnaires given by both Yorio and Gorman (cited in Crow, 1986) second language students reported that vocabulary constituted their main problem when reading. It may be that in the second language, reading strategies are more

constrained by limited lexical knowledge than they are in the first language. While an empirical confirmation of this suggestion would not advocate the resurrection of decoding theory, it might suggest that there are anomalies in second language reading that can't be adequately explained by most interactive models of reading as they now stand.

The Question

It is not hard to justify the need for second language reading research focusing on vocabulary knowledge. At the instructional level, the central role of reading in immersion education requires that potential problems in reading comprehension be assessed and addressed. At the theoretical level, there is a need to identify, examine and eventually resolve possible anomalies between the second language reading process and current accepted reading theories. Finally, at the practical level, a review of the literature indicates that second language reading research has been neglected until recently.

A study attempting to clarify and quantify the role of vocabulary knowledge in second language reading comprehension could make a contribution to the existing literature. Similar research is available for the first language. In particular, Freebody and Anderson (1983a) manipulated the amount of unfamiliar vocabulary in reading passages and measured this effect on reading comprehension. In the second language a related study would allow, not only a more precise

delimitation of the role of unfamiliar vocabulary in reading comprehension, but also a comparison of this feature with results from the first language study. It is not unreasonable to assume that reading in the second language is more difficult than in the first language. From this assumption a derivative question becomes: Can the effect of unknown vocabulary on second language reading comprehension be quantified, thereby permitting a comparison with results from first language research?

Chapter 2

Review of the Literature

"Compared to the amount of research that has been done on first-language reading, very little has been done to investigate and analyze the process involved in second language reading. This is especially surprising when one considers that throughout the world the primary, secondary and university education of most students is conducted in whole or in part in a language other than the one spoken at home and that the academic success of these students is intimately related to their ability to read a second language."

(Cziko, 1978, p. 473)

A review of the literature indicates that these words, though written in the 1970s, still can apply in the late 1980s. While there has been recent encouraging interest in the second language reading process, it remains somewhat of a neglected area. At the theoretical level this means that any attempts to explain the second language reading experience continue to be confined by first language reading theories in spite of recognized anomalies between the two experiences.

First Language Vocabulary/Reading Comprehension Studies

Even in the first language, studies examining the relationship between vocabulary knowledge and reading comprehension have produced ambiguous results. As early as 1944 (Davis, 1944), factor analysis showed a strong correlation between vocabulary knowledge and reading comprehension. On the other hand several studies have failed to establish a direct cause-effect relationship between vocabulary difficulty and reading comprehension.

In a 1974 study, Marks, Doctorow and Wittrock manipulated vocabulary in reading passages by changing familiar substance¹ words to unfamiliar synonyms. They reported that changing about one substance word in six to an unfamiliar synonym impairs children's performance on multiple choice measures of text comprehension.

The significance of these results, however, has been questioned by Freebody and Anderson (1983a). After measuring reading comprehension on tests of free recall, summarization of the main ideas and sentence recognition, they concluded that "it takes a surprisingly high proportion of difficult vocabulary items to create reliable decrements in performance on these measures of comprehension" (p. 36). Only when one substance word in three in a passage was changed to a low frequency synonym did they report a deterioration in reading comprehension.

In both the Marks, Doctorow and Wittrock study and the Freebody and Anderson study no instructional treatments were introduced. Experiments with instructional treatments tend to call into question the findings of the former and to support those of Freebody and Anderson. Jenkins, Pany and Shreck (1978) first used a number of instructional techniques to teach word meanings to fifth and sixth-grade students. They found no evident benefit on tests of comprehension of texts containing the words that had been taught. This

¹ Substance words are defined as nouns, verbs, adjectives and adverbs (Swaffer, 1988).

confirmed results of a similar 1974 study by Tuinmen and Brady (cited in Soffer-Weiss, Mangrum and Llabre, 1986) which found no significant transfer from word instruction to test comprehension. It should be noted, however, that both of these studies used a much larger ratio of familiar to unfamiliar words than the 3:1 ratio later established by Freebody and Anderson.

An instructional study by Soffer-Weiss, Mangrum and Llabre (1986) has supported the conclusions of Freebody and Anderson. In their study experimental groups were presented with pseudowords and definitions prior to reading a passage containing the pseudowords. These groups outperformed a control group not given the definitions on multiple choice and retell tests measuring text comprehension. The pseudowords accounted for approximately 30% of the substance words in the text.

The ingenious use of pseudowords in this study circumvents some of the inherent ambiguities of using unfamiliar vocabulary as an index of vocabulary knowledge. Freebody and Anderson themselves acknowledge that, in defining unfamiliar vocabulary as low-frequency words, the selection of such words is largely intuitive as it is very difficult to check students familiarity with high and low frequency words.

Second Language Vocabulary/Reading Comprehension Studies

A review of the literature for the second language

reveals the existence of both correlative and instructional studies relating vocabulary and reading comprehension.

Using factor analytic research Marva Barnett (1986) reported a correlation between vocabulary knowledge as measured by the cloze procedure and reading comprehension as measured by the recall method. These results support findings from first language reading comprehension studies which have established high correlations between extensive reading and vocabulary level.

Somewhat surprisingly, there seems to be little research directed at the specific examination and quantification of the role of vocabulary difficulty in the second language reading process. Instead the focus has often been on a comparison of the effects of vocabulary and non-lexical factors on reading comprehension.

In a study by Thom Hudson (1982) reading comprehension as measured by multiple choice items was compared for groups given three instructional techniques: (1) pre-reading which emphasized background knowledge relevant to the text; (2) vocabulary word lists with definitions of target low frequency words in the text; and (3) double exposure to the text. The results indicated that of the three treatments the vocabulary word list was the least effective.

Patricia Johnson (1982) also measured the effects of background and vocabulary knowledge on reading comprehension. The vocabulary conditions included: (1) pre-study of definitions of low frequency words found in the text but no

access to these words during the test: (2) reading the text with definitions of the low frequency words glossed in the margin: (3) studying the target vocabulary before reading the passage and then with the definitions of the target words glossed in the margin of the text. The control group read the passage without a vocabulary list to study before reading or to refer to while reading. To measure background knowledge two versions of a passage on Halloween were used. One contained familiar, the other unfamiliar, information. Reading comprehension was measured by recall and sentence recognition tests. While statistical analysis indicated that prior cultural experience (background knowledge) improved test performance, exposure to meanings of the target vocabulary words by any of the treatments did not seem to have a significant effect on reading comprehension.

The Hudson and Johnson studies can be criticized, however, on several levels. First, in both studies word lists for the teaching of new vocabulary were used, an approach which has increasingly been criticized by second language educators and researchers (Crow, 1986). Secondly, neither Hudson nor Johnson clearly defines the ratio of familiar to unfamiliar words in their study. It may be that, as Johnson herself concedes, the amount of unfamiliar words used was too small to significantly affect reading comprehension. Finally, the measurement procedure used by Johnson can itself be called into question as recall testing in the second language does not appear to take into

consideration the difference between active and passive vocabulary and the effects that this factor can have on memory (Lee, 1986).

Other Second Language Studies

Conclusions from both the Hudson and Johnson studies appear to minimize the importance of vocabulary in the reading process. This seems to contradict, not just correlative research, but also a conventional and widespread acceptance of the importance of vocabulary among second language educators and learners (Twaddell, 1980). It does, however, agree with current interactive models of reading which often appear to disregard the position of lexical knowledge in their explanation of reading strategies.

Is there a precedent for questioning the underlying theoretical presumptions of these models as well as those of their predecessors, psycholinguistic and schema theory, as a total explanation of the second language reading experience? Consider explanations of reading as an interactive process. Good first language reading, it is suggested, involves an interaction and equilibrium between top-down and bottom-up processing techniques. Top-down processing refers to that part of processing that can be attributed to the reader's expectations and knowledge. It occurs when the reader makes predictions based on higher level concepts or schemata. Bottom-up processing, by contrast, is data based processing and is evoked by the specific incoming text. In both the

first and second language it is suggested that the initial schemata (background knowledge and expectations) can override the negative effects of a second language linguistic ceiling (Stanovich, 1980). Stated differently, the more difficulties second language readers have with bottom-up processing the more productive they will become in activating top-down processing (Wolff, 1987).

There is increasing evidence, however, to indicate that readers do not process text in the second language in the same way that they do in the first language. Several studies suggest that, in the second language, reading is parasitic on language to a larger degree than in the first language. Thus, in the second language the need to process language may interfere with, inhibit or destroy the goal of processing information.

Clarke (1979) found, in comparing the eye tracking strategies of good and poor first language readers, that differences between them were greatly reduced in the second language. He concluded that 'limited control over the language short circuits the good reader's system' (p. 138). McLeod and McLaughlin (1986) tentatively concur. Using a comparison of the error patterns when reading in English of American university students whose first language was English with students whose first language was not English, they looked at the relationship between readers' strategies (top-down factors) and lexical recognition (bottom-up factors). Their conclusion was that second language readers were

decoding surface language rather than interacting with the text.

Similar observations have been made by Kozminsky and Graetz (1986), whose study tested the hypothesis that second language students' approach to text study reflects a top-down processing strategy in contrast to first language students' approach which is more text driven. Contrary to the hypothesis, they reported that students' second language study activities focused more on the word level than did the first language activities which related more to paragraph level.

All of these conclusions appear to refute the general disregard for lower level processing prevalent in many current interactive models of reading. On the other hand they lend credence to Cummin's (1979) notion of a threshold level of linguistic competence which predicts that second language readers will not be able to read as well in the second language as in their first language until they have reached a threshold level of competence in the language. According to Cummins, this threshold will vary depending upon the circumstances surrounding the task. Circumstances could include such factors as the nature of the task, the state of cognitive development of the reader and his/her relevant background knowledge.

Support for this interpretation of the second language reading process can be garnered from cognitive psychologists such as Schiffrin and Schneider (1977). They suggest that unfamiliar language necessitates differential strategies for

text processing. Whereas the familiarity of most words in the first language causes us to process text automatically, in the second language much more of our cognitive attention is often on unfamiliar word meanings rather than connecting concepts. The result is insufficient schematizing with resultant lack of comprehension. At the extreme this theory implies that successful reading in the second language can only result after freedom from language mechanics.

Given the apparent anomalies that exist between current theories and experimental findings, it may be sensible to re-examine the role of vocabulary knowledge in the second language with a view to comparing its effect on reading comprehension with results from available first language studies.

First language studies indicate that one in three substance words must be classified as low frequency vocabulary to produce a negative effect on reading comprehension. However, it should be pointed out that low frequency vocabulary is not synonymous with unknown vocabulary. For example, Freebody and Anderson (1983a) reported that in their study subjects were familiar with the meaning of approximately 44% of the low frequency words.

Is there a corresponding vocabulary threshold for reading comprehension in the second language below which top-down processes fail to compensate for language problems? In general, one might hypothesize that the greater the degree of word difficulty in a reading passage the greater the negative

effect would be on second language reading comprehension. Based on the assumption that the second language reading experience is more difficult than reading in the first language and that students are more constrained by bottom-up factors, a more precise hypothesis for this thesis would be as follows: "If vocabulary difficulty is manipulated within reading texts by changing one substance word in ten and one substance word in six to unknown synonyms, there should be a corresponding linear decrease in performance on tests of reading comprehension."

Chapter 3

Methodology

Sixty-eight subjects completed comprehension tests, using multiple choice items, on passages that were either written with no unknown vocabulary or had one substance word in six or one in ten changed to an unknown synonym. The independent variable was the degree of unknown vocabulary in the reading passages. The dependent variable was performance on the multiple choice test.

Materials

The Passages

Four passages were originally selected from two second language readers written by Jarvis, Bonin, Corbin and Birckbichler (1981a, 1981b). However, after consultation with three content experts, one passage was rejected. The topic (cave paintings in Lascaux, France) was considered too culturally specific to relate well to the subjects' background knowledge.

Of the remaining three passages one narrated the adventures and escape attempts of the character Papillon in a French Guyanan prison. Another described the attitude of the French towards their pets, while the third discussed the importance of anger in daily life. All passages were of approximately the same length (between 350 and 390 words) and syntactic difficulty. None of the passages contained grammar

or sentence structures that the students were not familiar with.

It was decided on the basis of the Freebody and Anderson study (1983a) that vocabulary difficulty would be examined in three conditions. Consequently, each of the passages comprised versions which reflected the three conditions.

Condition 1 This 'easy' version of each passage contained no unknown vocabulary.

Condition 2 This 'medium' version of each passage involved the substitution of approximately one substance word in ten with an unknown synonym.

Condition 3 This 'difficult' version of each passage entailed such substitutions for one word in six.

The unknown vocabulary in conditions 2 and 3 was defined as words to which the students had not been exposed in their French program. Because almost all of the students in the study had studied the same French program since Grade 7, and because the teachers and researcher involved in the experiment had experience with the program at all levels, it was possible for the researcher, through discussion with the teachers, to identify and distinguish between unknown and known vocabulary.

There were, however, some ambiguous cases for which intuitive decisions had to be made. Three distinctions were used when determining the classification of ambiguous

vocabulary.

First, words which the students had not encountered in their French program but which were very similar in root structure to a familiar English equivalent were accepted as known vocabulary. For example, the French word 'scandaleux' and its English equivalent 'scandalous' were considered sufficiently similar as to allow most students to deduce its meaning.

Second, as much as possible, words with root structures that resembled less obviously familiar English equivalents were not used throughout the passages. An example would be the French word 'efficace', for which the English equivalent is efficient. This reflects an acknowledged inability on the part of the researcher to predict how subjects would react to such words. While some students might recognize the similarity between efficace and efficient others might not.

Finally, an attempt was made to avoid vocabulary which students might have encountered in an individual instance at some point during past years of the French program but to which they had not had repeated recent exposure. Since this investigation focuses on unknown as opposed to unfamiliar vocabulary it seemed sensible to avoid vocabulary to which students had had distant and infrequent exposure. Judgments of this nature were possible because of curriculum controls in place both at the provincial and school level. However, it should be conceded that, for the purpose of this study, the impact of home environment was not precisely determined. Some students may have been exposed to more French than

others through such experiences as family visits to Quebec or St. Pierre.

Having established criteria for the definition of unknown vocabulary, a mechanical procedure was used to select and inject the vocabulary conditions into the textual material. The three passages extracted from the readers were first edited to ensure similar length and syntactic difficulty across passages. They were then adapted to conform to condition 1 in the study. That is, all unknown words were deleted and replaced by familiar synonyms. This represented the control condition.

Substance words were subsequently identified in each of the control passages. After determining how many substance words per line needed to be changed for condition 3 (the difficult condition), each line of the passage was scanned for substance words amenable to replacement. Using a dictionary, the difficult versions of each passage were constructed with unknown vocabulary. No unknown vocabulary was repeated and an effort was made to position all injected vocabulary as evenly as possible throughout the passages. This involved, wherever possible, a line by line strategy for implanting words.

A similar technique was used to position unknown vocabulary in the three passages for condition 2. Care was taken to ensure that all vocabulary selected for condition 2 could also be found in condition 3.

The Multiple Choice Tests - Rationale

The decision to use a multiple choice test instead of the cloze or recall procedure to measure comprehension of the passages reflects theoretical and practical considerations.

Several investigators have questioned the ability of cloze tests to measure reading comprehension. Reasons given are that cloze is minimally sensitive to prior passage reading (Cunningham and Tierney, 1979), and that the gain from prior reading is possibly influenced by verbatim measurement (Shanahan, Kamil and Tobin, 1982). Considering the questions raised concerning cloze as a measure of reading comprehension, particularly for second language research, Soffer-Weiss, Mangrum and Llabre (1986) recommend that "the use of the method for comprehension assessment should be suspended until more is understood" (p. 275).

The decision not to use the recall method was more difficult as the current view of reading comprehension tends to embrace a conceptual model influenced by research on memory and recall. This procedure may, however, introduce complications when used as an instrument of measurement in second language reading research.

Although recall can be in the first or second language, second language reading studies increasingly favour first language recall, possibly as a reaction to findings by Lee (1986) who has reported that evaluating second language reading comprehension with a second language task yields

significantly less information than evaluating comprehension with a first language task.

First language recall testing of second language reading comprehension can also be criticized. On the practical level the use of this procedure as an instrument of measurement is incompatible with current second language instructional practices. Translation exercises have been largely banished from the second language classroom and students are discouraged from translating when reading. To favour first language recall as an instrument of measurement for second language reading comprehension strongly contradicts current second language pedagogy.

Additional questions which relate specifically to the second language recall task need to be raised. Lee (1986) questions whether the language of recall can somehow interact with short term memory to produce different types of idea units. To ask subjects to read and comprehend in one language but to recall concepts and propositions in another language involves translation. It is by no means clear what effect the introduction of this intermediate step has on recall.

Finally, studies using the recall method tend to support schema theory's assessment of the importance of background knowledge. It is possible, however, that the recall method is biased in favour of this component of reading comprehension. Sternberg (1987) defines reading comprehension tasks as those that aim to measure the ability to acquire new knowledge or learn from context. Could it be

that the recall task sometimes fails to distinguish between the dependent and independent variables? In other words, is it possible that propositional analysis may sometimes be measuring background knowledge instead of reading comprehension?

These are controversial questions based, it must be acknowledged, largely on opinion rather than concrete evidence. However, they do suggest, at least in the view of the author, that recall should be employed with some hesitation in second language reading research.

The decision to use multiple choice testing does not imply that this instrument of measurement is itself without flaws, and a discussion of its limitations as they pertain to this study is included later in the thesis. There are, however, advantages to multiple choice testing. Not only does the dichotomous scoring procedure particular to this measure remove the element of subjectivity in the marking of the test, but it also allows the calculation of test reliability according to convenient accepted statistical criteria. These two factors, coupled with hesitations about the recall and cloze procedure, prompted the decision to use this form of test. Time constraints inherent to the implementation of the experiment did not permit the use of more than one type of measure.

The Multiple Choice Tests - Design Features

The original reading comprehension test included eight

multiple choice items, each with a choice of four responses, and six true/false statements. Multiple choice test items contained no unknown words and the tests were identical for each vocabulary condition within passages. To preclude the use of verbatim measurement, answers did not replicate phrases or sentences used in the passages.

This format was piloted with a group of 46 Grade 10 advanced French students in March 1989. Application of the Cronbach coefficient Alpha formula determined the reliability coefficient for each of the conditions. These results are found in Table 1.

Table 1
Coefficients of Reliability Across Passages
for Different Vocabulary Conditions
on Multiple Choice Items of
the Pilot Study

Passage	Conditions		
	1	2	3
1	.4215	.5891	.4152
2	.4215	.5657	.0338
3	.0770	.5270	.3725

As can be seen in Table 1, the reliability for the three passages was low across all conditions. For this reason it

was difficult to categorize individual questions as strong or weak on the basis of the statistical results. Consequently all items were analyzed in depth to determine patterns in students' responses. Information gathered from the item analysis prompted the following changes.

1. All true/false items were deleted and replaced by additional multiple choice items. The true/false category was considered unsatisfactory for two reasons. It was felt that the limited choice of true false questions allowed too much latitude for successful guessing. The items also appeared too strongly biased towards the testing of details.
2. Responses to existing multiple choice items were examined for structural weaknesses. Distractors that did not attract any subjects were either altered or replaced. Distractors that attracted a disproportionately high number of subjects were examined to determine if and where the bias existed. A preliminary analysis indicated that students tended to favour responses in which the vocabulary resembled or approximated that found in the text even when these answers were logically incorrect. At the same time they often ignored correct answers which used vocabulary not found in the text. This in part explains the wide within-passage differences in reliability across the three conditions. Although the questionnaires were identical for all conditions

the choice of words inadvertently sometimes more closely approximated those found in one of the conditions. To correct for this phenomenon all vocabulary within each of the items was carefully assessed. The objective was twofold. First, care was taken to ensure that vocabulary from the text was evenly distributed throughout the four item responses to each question. Secondly, vocabulary in the item responses was examined to ensure that it did not favour one of the passage conditions over any other.

3. Finally, the additional multiple choice items were constructed to reflect a test balance between micro and macro level comprehension. This conformed to an assessment of reading comprehension articulated by Bensoussan (1986)

"The process of reading comprehension occurs simultaneously on two levels: macro - or text level and micro or word/phrase level. Since both levels are necessary for comprehension, the reader who does not comprehend on either one of these levels misses part of the text." (p. 402)

For the purpose of this study micro level items were defined as those that were based upon detailed information in the text and related to comprehension at the level of phrases or sentences. Distractors included plausible alternatives with vocabulary related to the relevant part of the text. Macro level items tested gist or global comprehension. The ability to infer, prioritize, sequence and summarize information was measured by macro items.

The final draft of the test was previewed by content experts from the Faculty of Education and the selected

school. In addition, versions of the tests related to each of the vocabulary conditions were taken by school teachers or university professors with differing backgrounds in French knowledge. Any ambiguities as reported by these individuals prompted an analysis of the items involved and subsequent changes where appropriate.

Experimental Design

The basic design of the study is an orthogonal structure in which the between subjects portion consists of subjects randomly assigned to the three blocks of the structure. The treatment, as indicated in Table 2, is within subjects and consists of three vocabulary conditions, easy, medium and difficult, embedded within each of three reading passages.

Table 2
The Treatment:
Vocabulary Conditions
for Blocks of Subjects

Block	Reading Passages			Number of Subjects
	1	2	3	
1	easy	medium	difficult	21
2	difficult	easy	medium	24
3	medium	difficult	easy	23

Subjects in each of the blocks received three treatments. For example, subjects in Block 1 received (although not necessarily in this order) the easy condition of Passage 1, the medium condition of Passage 2 and the difficult condition of Passage 3. To minimize fatigue and sequencing effects, order of presentation was counterbalanced within each block according to a Latin square confounded factorial design as depicted in Table 3. Order was not included in the analysis.

Table 3
Order of Presentation of Treatments
for Blocks of Subjects

Block	Order		
	1	2	3
1	P1-E P2-M P3-D n=6	P2-M P3-D P1-E n=7	P3-D P1-E P2-M n=8
2	P1-D P2-E P3-M n=8	P2-E P3-M P1-D n=8	P3-M P1-D P2-E n=8
3	P1-M P2-D P3-E n=8	P2-D P3-E P1-M n=8	P3-E P1-M P2-D n=7

P = Passage
n = Number of subjects

E = Easy condition
M = Medium condition
D = Difficult condition

Subjects

Subjects in the sample were from a school in Mount Pearl, Newfoundland, a predominantly lower middle and middle class area. Of the original 81 students selected for the experiment only 68 completed the task. Twelve students were absent on the day and one student had to leave halfway through the allocated time period.

The original group of subjects, who were 16 to 17 years old and enrolled in French 3200, represented approximately 40% of the total level 2 population of 205 students at the school. Two groups were not included in the study. The largest group, comprising 48% of the level 2 student population at the school, had elected to drop French, often because they found the subject difficult or were low achievers. An additional 12% of the level 2 student population was enrolled in the expanded French program and so had different background knowledge from the selected sample. These students tended to be mostly high achievers.

Procedure

In May, 1989, subjects were randomly assigned to conditions within each of the three blocks. They were then tested in their intact classroom groups during a double period of French. Classroom teachers administering the test were required to give minimal explanations as all students possessed a written copy of instructions. In the written instructions, the format and nature of the test and the time allocation per section were

explained. Students read that the test would count towards their French mark and were directed to answer all questions even if this meant guessing. The decision to encourage students to guess was taken to eliminate any confounding factors attributed to personality. While some students might have been intimidated by the instruction "not to guess because you will be penalized", others would not (Mehrens and Lehmann, 1984).

A copy of the test and instructions is included in Appendix A. Other versions of each of the vocabulary conditions are found in Appendix B.

Limitations of the Study

As a preliminary investigation into the effects of differing levels of vocabulary knowledge on second language reading comprehension the present study has a number of limitations. First, because access was limited to one school, it was impossible to study the reading performance of large random samples of subjects. Hence, because convenience samples were used, the results can not be generalized to other populations without qualifications. It should be remembered that the particular sample comprised 16-17 year old high school students who were generally of average and slightly above average ability and who had been exposed to approximately 600 hours of French spread over an eight year time frame.

Second, although, in the opinion of the author, the written format of the instructions for the test should have

discouraged interaction between test administrators and the subjects, it is possible that teacher relationships and student attitudes may also have been a factor influencing comprehension.

Third, all conclusions must be tempered by the possibility that the instrument of measurement produced behaviors which are particular to this tool. Hudson (1982) suggests that multiple choice instruments may not elicit exact representations as it is possible for the reader to score well and yet still have an incorrectly reconciled schema. Multiple choice tests may also, by their very nature, favour text processing at the microscopic level. One of the salient features that emerged from the original pilot was the apparent relationship between selected responses and vocabulary. Subjects often appeared to prefer distractors which most closely approximated the wording in the text. Although care was taken subsequently in the construction of the final version of the tests to ensure that vocabulary was evenly balanced throughout the multiple choices, the possibility remained that the vocabulary particular to the items themselves might have affected test results.

Similar arguments can be made against the use of short (350 word) texts. Kintsch and van Dijk (1978) suggest that short text studies highlight the effects of lower level context, thereby favouring the comprehension of micropropositions. Within the context of this study it is certainly true that the author experienced considerably more difficulty creating appropriate macro items than micro items.

Finally, the substitution of vocabulary according to a fixed ratio and the line by line implantation of words in themselves pose certain risks. It is possible that this procedure may have resulted in important information being obscured in some cases and not in others and that this effect was uneven across both passages and conditions.

Nevertheless, there are implications that can be derived from the results of this study.

Chapter 4

Results

Sample Size

Unfortunately, absenteeism on the days of the test resulted in unequal sample sizes. Because statistical analysis would have been complicated given the orthogonal structure of the Latin Square, the decision was taken to equate the three groups by deleting three subjects from Block 2 and two subjects from Block 3. Considerable time was spent looking for outliers that would affect the representativeness of the samples; however, there were no obvious candidates for deletion. Consequently, subjects were randomly deleted from the blocks.

Tests for Reliability

The Cronbach coefficient Alpha formula was used to determine the reliability for each of the conditions within the three reading passages.

Table 4
Coefficients of Reliability Across Passages
for Different Vocabulary Conditions
on Multiple Choice Tests

Number of Questions	Passage	Condition		
		Easy	Medium	Difficult
14	1	.6575	.3183	.6550
	2	.4945	.5448	.4753
	3	.7813	.6893	.6661
13	1	.6891	.4368	.6886
	2	.5353	.6190	.3759
	3	.7378	.6712	.6988
10	1	.6971	.4387	.6031
	2	.6244	.5918	.4861
	3	.7520	.6613	.7481

As can be seen in Table 4, when all 14 items were considered passage 2 proved to have a lower reliability coefficient than the other passages. To increase reliability for this passage a deletion of four "bad" (as indicated by the analysis) items from each of the tests was considered. However, the reliability coefficient for the medium condition of Passage 1 and the difficult condition of Passage 2 would still have remained low. Because a reduction in each of the tests to 10 items would also have produced a more limited pool of items available for analysis, the decision was taken to keep 13 items in the

tests and to delete one item from each of the tests. In Passages 1 and 2 the items that yielded the lowest test reliability were deleted. In passage 3 the item selected for deletion was one in which a typographical error within the passage invalidated the question.

Because these were first-time tests and because there were only 13 items in each test the reliability measurements were considered acceptable for this study. The low reliability of the medium condition, Passage 1 and the difficult condition, Passage 2 seemed difficult to explain as there did not appear to be any inconsistencies within these particular passages that could produce these effects. It should be noted, however, that these two treatments involved the same block of students. As can be seen in Tables 5 and 6, the characteristics of this block differ somewhat from the other two blocks. Not only does Block 3 have the lowest total mean scores across treatments, but as well, the smallest variance for both the medium and difficult conditions. It is only on the easy condition, which, for this particular case, involves also the easiest of the three passages that the variance of this block approximates that of the other two blocks. This raises the possibility of a Type S sampling error due to the inclusion of unrepresentative individuals in the sample (Borkowski and Anderson 1977). Such a factor might explain, in part, the lower reliability scores of Block 2 on the medium and difficult conditions.

Table 5
 Mean Performance for Blocks of Students
 Across all Vocabulary Conditions

Conditions				
Block	Easy (13 items)	Medium (13 items)	Difficult (13 items)	All (39 items)
1	6.62	5.67	6.38	18.60
2	5.95	5.95	5.62	17.52
3	6.57	4.76	4.67	16.00

Table 6
 Mean Variance of Blocks of Students
 for Different Vocabulary Conditions

Conditions			
Block	easy	medium	difficult
1	2.89	2.63	2.65
2	2.37	2.65	2.89
3	2.82	2.14	2.11

Tests for Significance

Table 7 summarizes the printout from the SPSSX program.

Table 7
Source Table for the ANOVA for
Passage, Condition and Block of Students

Source of Variation	Sum of squares	df	Mean square	F	Sig of F
Block of students	22.95	2	11.47	.84	.439
Model	22.95	2	11.47		
Error 1	824.04	60	13.73		
Version	24.57	2	12.29	3.73	.027*
Passage	24.06	2	12.03	3.65	.029*
Version by Passage	1.34	1	1.34	.41	.525
Error 2	395.37	120	3.29		

* = The F-ratio is statistically significant

It can be seen from Table 7 that, as anticipated, the intentional design factor, block of students, was not significant. On the other hand, both passage and vocabulary conditions were significant. It should be noted, however, that there was no significant interaction between these two factors.

As indicated in Table 8, scores on Passage 3 were significantly higher ($p < .05$) than scores on the other two passages. However, because no significant interaction was found between passages and conditions it was not necessary to

consider the effects of passage differences on vocabulary conditions.

Table 8
Comparisons for differences among means
on Anova Table 7

Variables	Post Hoc Student Newman-Keuls Test	
	Critical Value	Observed Value
Vocabulary Condition		
Easy vs. Medium	3.36	4.00*
Easy vs. Difficult	2.80	3.59*
Medium vs. Difficult	2.80	.42
Passage		
Passage 3 vs. Passage 2	3.36	3.86*
Passage 3 vs. Passage 1	2.80	2.90*

* $p < .05$.

Of major interest in this study is the main effect of the vocabulary condition on the reading comprehension measure. Scores for the easy vocabulary condition were significantly higher ($p < .05$) than for both the medium and difficult vocabulary conditions. However, as is evident from both Table 8 and Figure 1, there was no significant difference between the difficult and medium condition.

Good vs Poor Readers

One of the many advantages of data based studies is the opportunity they afford to interpret the data ex post facto in light of previous research conclusions, assumptions or suggestions. In the present study an a posteriori analysis of the data was performed to look for differences related to reading skills.

Lee (1986) suggests that, whenever possible, studies ought to include levels of learners and compare results across levels. For the purpose of this study levels of learners were defined and classified according to their combined performance across all treatments. Within each block students were divided into two groups based on their total score over the three tests. This was done according to the following procedure. Total performance across the three treatments was calculated for all students. Within each block, scores were then rank ordered from highest to lowest. Students with scores in the top half of each block were defined as good readers. Those students with scores in the bottom half of each block were defined as poor readers. It should be remembered, however, that these definitions are limited by the composition of the sample of students tested which excluded many high and low achievers.

As can be seen in Figure 1 both the good and poor readers received higher mean scores on the easy vocabulary condition than on the other conditions. However, no significant interaction was found between ability and condition.

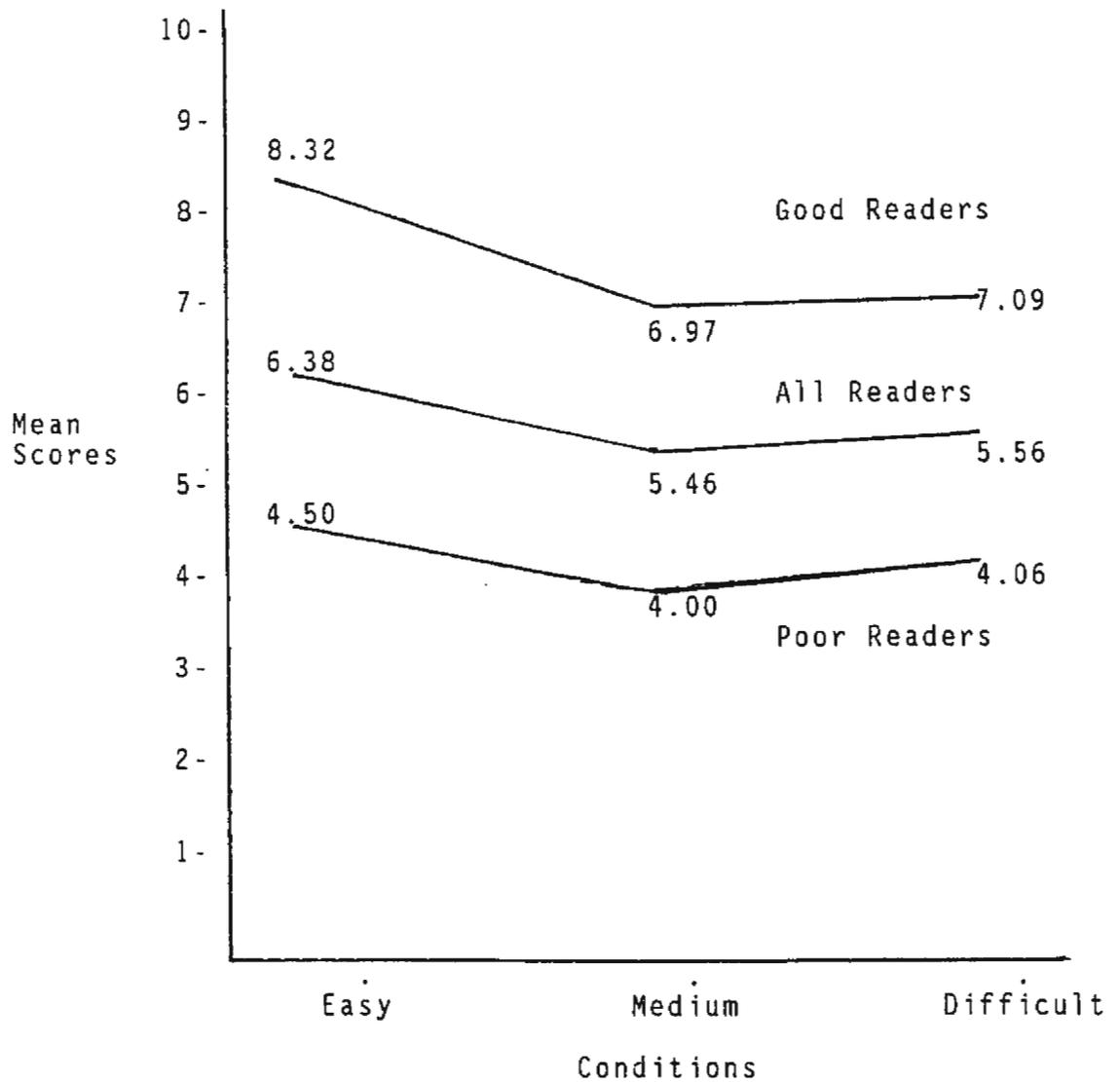


Figure 1. Mean Scores for Good and Poor Readers for Different Vocabulary Conditions

Chapter 5

Discussion and Conclusions

Discussion of the Results

It is commonly accepted that in the first language it takes a surprisingly high proportion of difficult vocabulary items to affect reading comprehension. The frequency with which the 1983 Freebody and Anderson study is cited attests to this. However, most educators, including Freebody and Anderson, would acknowledge that in the second language lack of vocabulary knowledge has a greater detrimental effect on reading comprehension.

Within this context the results of the present study are not surprising. Significant effects on multiple choice measures of reading comprehension were found when both one substance word in six and one substance word in ten were replaced with unknown vocabulary. This was true for both good and poor readers as defined within the limitations of this study. These results not only support the high correlations that have been established in the literature between vocabulary knowledge and reading comprehension but, as well, amass more evidence for the view that second language readers tend to be linguistically bound to a text. The finding that a substitution rate of as low as one word in ten can produce a deterioration in performance on comprehension measures also lends credence to the viewpoint expressed by some second language teachers and students that vocabulary knowledge is the most important element in second

language reading.

Are there further interpretations that can be made in light of results from this study? The original hypothesis postulated a linear relationship between vocabulary knowledge and reading comprehension. It was expected that the more unknown vocabulary there was in a reading passage the greater would be the detrimental effect on reading comprehension. However, contrary to predictions, no significant difference in performance was found between the difficult vocabulary treatment in which one in six substance words were substituted with unknown synonyms, and the medium treatment with its substitution rate of one substance word in ten. In fact, mean comprehension scores measured slightly lower on the medium condition than on the difficult condition. This result suggests, that for Core French students with approximately 550 hours of French instruction, the effect of unknown vocabulary is non linear. There may well be, as Cummins (1979) suggests, a linguistic ceiling beyond which limited control of the language short circuits the good reader's system causing him/her to revert to poor reading strategies.

The exact nature of this short circuit can only be hypothesized. Freebody and Anderson (1983a) referred in their study to the possible signalling value of rare words. Because authors of school texts do not use rare words trivially, their appearance may signal to students that the text analysis will be difficult. In the second language

this effect may be even more pronounced as students are unaccustomed to encountering unknown vocabulary without a corresponding explanation. Thus, the shock of exposure to unknown vocabulary may have in part contributed to the linguistic ceiling reported in this study.

The concept of thresholds appears to be peripheral to the interactive theory of reading with its emphasis on the reader rather than the text. While advocates of interaction models of reading would acknowledge that a breakdown in bottom-up processing can indeed cause disruptions in top-down processing, they might argue that this can be overridden by compensating components. For example, one way that a strong component can compensate for a weaker one is by the introduction of background information relevant to the text prior to the reading experience (Hudson 1982).

There is increasing criticism, however, of the ability of existing interactive models to explain adequately the second language reading experience. Few would decry their explanation of the reading process as the interrelation between different components. What can be criticized, however, is the general disregard for lower level processing in many of the models developed (Grabe, 1988; Estey, 1988). On an optimistic note, at least from the point of view of the author, the verbal efficiency interactive model of Perfetti (1986) appears to accord a more prominent position to lexical access.

Pedagogical Implications

The importance one accords to the concept of linguistic thresholds has fundamental implications for the teaching of second languages. If, as threshold studies suggest, one of the principal causes of second language reading problems is poor target language knowledge, then it would make sense to concentrate upon improving language knowledge. If, on the other hand, one subscribes to the interactive model of reading with its emphasis on the relationship between a number of different components, a variety of strategies would be used, of which improving language knowledge is only one.

The present study lends support to the view expressed in threshold research that language knowledge is central to the second language reading process. Such a position has several implications for second language teaching with respect to both immersion and core French programs at both the curricular and instructional levels.

At the curricular level, if vocabulary is of crucial importance in the readability of content area educational textbooks, then strategies must be implemented to overcome this stumbling block to comprehension. Williams and Dallas (1984) suggest two broad approaches. The first involves the simplification of the reading material and the second the provision of back up devices. At present immersion students are using texts written for Francophones of a similar age. It is probable, however, that in the foreseeable future,

market demands will prompt the writing of content texts targeted specifically at immersion programs. A realistic editorial aim would be to educate authors about the likely vocabulary limitations particular to this readership so that they can avoid low frequency vocabulary or incorporate back-up devices for coping with it. Such devices could include a chapter by chapter glossary of key words, writing exercises which require the use of vocabulary that has been newly introduced in the book and regularly spaced revision checks.

Similarly, authors writing for core French programs should develop a more systematic approach to vocabulary. The advent of the computer with its capacity for word processing offers to authors the opportunity to observe and control vocabulary patterns. Use of such a feature could eliminate the often overworked repetition of well known words, thereby creating space for the development and systematic practice of a larger pool of vocabulary.

At the instructional level the existence of a linguistic ceiling in the second language raises a key question. Are students linguistically tied to texts because of the inherent difficulty of processing unfamiliar vocabulary and structure or because they have not been trained to develop strategies which would enable them to cope with some incomprehensible input? If the former is true Alderson (1984) suggests that one should concentrate upon improving language knowledge. Thus, a reading course would be more properly concerned with teaching language competence rather

than reading strategies. Acceptance, on the other hand, of the latter position implies that this approach to language teaching leaves students unprepared to deal with language in the real world. Second language students need to be taught that comprehension is not a function of understanding every word, but rather of developing strategies for selecting and identifying key ingredients to the message. This interpretation means that they should be exposed regularly to unfamiliar vocabulary in reading passages.

One suspects that in reality the answer to both sides of the either/or question posed earlier is yes. Students are linguistically tied to texts because of the inherent difficulty of processing unfamiliar vocabulary. However, they have also not been trained to develop strategies that would help them to overcome these difficulties. For the pragmatic second language teacher there is no implied conflict between these two statements. Successful teaching of reading skills should incorporate techniques for both expanding vocabulary knowledge and for circumventing the inevitable difficulties posed by limitations in this area.

Recommendations for Further Research

This study raises a number of issues which future vocabulary work could address. It is suggested that any replication of the present work include in the experimental design an additional condition greater than the one in ten substitution rate. The objective would be to ascertain more

precisely at what point unknown vocabulary ceases to affect reading comprehension.

Another concern relates to the validity of the test instrument. The limitations of the three comprehension measures, recall, cloze and multiple choice have already been discussed. In light of these reservations it is recommended that, in addition to the multiple choice procedure, future research incorporate alternative measures to ensure a more balanced testing of all the subprocesses of reading comprehension.

Conclusions

Anderson and Freebody (1981) have suggested that knowing the "most nearly correct" view of the reading process is important because the proposed views have "radically different implications for the reading curriculum" (p.110). The thrust of this thesis has been that vocabulary knowledge is central to the second language reading experience. When an independent model of the second language reading experience finally emerges it will be interesting to see if these conclusions are corroborated.

Appendix A
Sample Test

READING COMPREHENSION TEST

This test includes three reading passages. After reading each passage you will be required to answer a series of multiple choice questions. Answer all questions. You will not be penalized for guessing.

The three passages are of varying levels of difficulty. One will have very few unfamiliar words, another passage will have more unfamiliar words and the third passage (the most difficult) will include a lot of unfamiliar vocabulary. The order in which you receive the passages will differ from student to student. This means that you will not necessarily be reading the easiest or the most difficult passage first.

The grade assigned to you on the test will be based on a comparison of how you perform in relation to other students in the class so do not assume that because you are finding the test difficult you are doing badly. Other students will be in the same position as yourself. 25% of all students taking the test will receive A's and another 40% B's.

You will be allowed 25 minutes for each section of the test. You must not start a new section until the teacher indicates to do so. Any questions which you have should be directed to the teacher before the test begins.

Good luck!

An answer sheet has been provided for you. Please do not write your answers on the question paper. Check that you have written your name on the answer sheet in the space provided.

PASSAGE X

VERSION: 1

STUDENT:

In the space provided mark the correct answer (A, B, C, D).

- | | | |
|----------|----------|----------|
| 1. | 2. | 3. |
| 4. | 5. | 6. |
| 7. | 8. | 9. |
| 10. | 11. | 12. |
| 13. | 14. | |

PASSAGE Y

VERSION: 2

STUDENT:

In the space provided mark the correct answer (A, B, C, D).

- | | | |
|----------|----------|----------|
| 1. | 2. | 3. |
| 4. | 5. | 6. |
| 7. | 8. | 9. |
| 10. | 11. | 12. |
| 13. | 14. | |

PASSAGE Z

VERSION: 3

STUDENT:

In the space provided mark the correct answer (A, B, C, D).

- | | | |
|----------|----------|----------|
| 1. | 2. | 3. |
| 4. | 5. | 6. |
| 7. | 8. | 9. |
| 10. | 11. | 12. |
| 13. | 14. | |

V1

PASSAGE X

Papillon = Butterfly

L'autobiographie du prisonnier Henri Charrière, appelé Papillon parce qu'il avait un papillon gravé sur son bras, continue à fasciner l'opinion publique. Ce livre, écrit en 1969 a été un grand succès. Il a raconté au monde la sombre histoire des prisonniers condamnés à rester dans la prison pénitentiaire de Guyane française.

L'histoire de cette sinistre colonie pénitentiaire a scandalisé l'opinion publique non seulement en France mais dans le monde entier. C'est à cause de l'histoire de Papillon, qui a passé 13 ans dans cette colonie, que le gouvernement français a décidé, pour des raisons humanitaires, de fermer pour toujours cette déplorable prison où sont morts 70,000 prisonniers.

Le 26 octobre 1951 on condamne Papillon à la prison à vie pour un crime qu'il n'a pas commis. Il a seulement vingt-cinq ans. Par la fenêtre de sa petite cellule (sa chambre), il voit une exécution à la guillotine une fois par semaine. Il n'y a même pas de cimetière pour les prisonniers. Quand un prisonnier est mort, on jette son corps à la mer.

Pendant toute sa captivité Papillon a seulement une pensée dans la tête: liberté. Il essaie de partir huit fois sans succès. Il est toujours capturé. Une fois, on le met dans une cage spécialement faite pour les animaux féroces. Sa cage est si petite qu'il est impossible de beaucoup bouger. Là, on n'a pas la permission de parler à la sentinelle; on n'a même pas la permission de crier à l'aide si on a peur de perdre la vie. En tout Papillon y passe quarante-deux mois sans parler. C'est la sentence pour avoir essayé de quitter la prison.

Après sa période de confinement dans cette horrible cage, Papillon est transféré à l'Île du Diable, un autre pénitencier de Guyane française. Là, il a toujours l'idée d'essayer encore une fois. Il fait une sorte de bateau avec des plantes de coco et deux sacs. Après soixante heures sous un soleil torride il arrive au Venezuela où il est adopté par une tribu d'Indiens primitifs. Papillon reste six mois avec ces Indiens avant de partir pour Caracas. Arrivé dans la capitale vénézuélienne, il décide d'écrire ses mémoires. Le succès de son livre lui permet alors de vivre sans problèmes d'argent jusqu'à sa mort.

PASSAGE X

Multiple Choice Questions

Now that you have finished the passage read the following questions and choose the correct answer. You may look back at the passage when answering the questions.

1. Pourquoi est-ce que le monde a trouvé extraordinaire l'autobiographie de Papillon?
 - a) Papillon était un homme exceptionnel.
 - b) Il y avait beaucoup de scandales dans le livre.
 - c) Les conditions de vie dans la prison pénitentiaire étaient terribles.
 - d) Son autobiographie a forcé le gouvernement français de faire une action humanitaire.

2. La sentence qu'on donne à Papillon pour son crime est
 - a) 42 mois
 - b) 13 ans
 - c) 25 ans
 - d) à vie

3. Comment est-ce qu'on dispose des prisonniers morts?
 - a) au cimetière
 - b) dans l'eau
 - c) par la guillotine
 - d) par le feu

4. Papillon n'a rien dit
 - a) pendant 42 mois.
 - b) pendant toute sa captivité.
 - c) excepté le mot 'liberté'.
 - d) excepté de crier à l'aide à la sentinelle.

5. La seule idée de Papillon quand il est en prison est
 - a) d'aller au Venezuela.
 - b) de quitter la colonie.
 - c) d'essayer encore une fois.
 - d) de survivre.

6. Papillon est allé au Venezuela
- a) par mer.
 - b) avec l'aide d'une tribu d'Indiens.
 - c) pour écrire ses mémoires.
 - d) pour aller à l'Île du Diable.
7. Le thème principal de ce passage est
- a) la vie de Papillon.
 - b) les expériences de Papillon après son arrivée en Guyane française.
 - c) l'histoire de la colonie pénitentiaire de Guyane française.
 - d) les conditions dans les prisons françaises.
8. Quelle sorte de conditions existaient dans la prison pénitentiaire de Guyane française?
- a) On a exécuté 70,000 prisonniers.
 - b) On a mis des prisonniers dans les cages avec des animaux féroces.
 - c) Il n'y avait pas de cimetières pour les morts.
 - d) Les réponses a), b), et c) sont correctes.
9. Dans combien d'habitations différentes est-ce que Papillon est resté pendant sa captivité dans les deux prisons?
- a) 2
 - b) 3
 - c) 4
 - d) 5
10. Papillon a quitté la Guyane française
- a) en 1969.
 - b) après 42 mois
 - c) après 13 ans.
 - d) après 25 ans.

11. Voici quatre phrases. Choisissez la phrase qui est correcte. (Trois phrases ne sont pas correctes.)
- a) On a mis Papillon en prison pour un crime dont il était innocent.
 - b) On a exécuté 70,000 personnes par guillotine dans la prison pénitentiaire de Guyane française.
 - c) On a fait une cage spéciale pour Papillon.
 - d) Papillon est mort pauvre.
12. Voici quatre phrases. Choisissez la phrase qui n'est pas correcte. (Trois phrases sont correctes.)
- a) Il n'y a pas de prisonniers français maintenant dans la prison pénitentiaire de Guyane française.
 - b) On a donné à Henri Charrière le nom de Papillon parce qu'il aimait beaucoup les papillons.
 - c) Papillon a essayé de partir de la Guyane française 9 fois.
 - d) Papillon a habité avec une tribu d'Indiens pendant six mois.
13. Quel âge avait Papillon quand il a quitté la prison pénitentiaire?
- a) 30+
 - b) 40+
 - c) 50+
 - d) 60+
14. Dans le passage on présente quatre thèmes. Le passage commence avec quel thème?
- a) Les conditions de vie dans la prison pénitentiaire
 - b) L'importance des mémoires de Papillon
 - c) Les traits de caractère de Papillon
 - d) Les aventures de Papillon en Guyane française

Please do not start the next section until
the teacher gives the signal.

V2

PASSAGE Y

Même l'Angleterre, où la passion pour les animaux est une institution aussi établie que le "five o'clock tea", est en seconde place. On place maintenant la France au premier rang en Europe pour la quantité d'animaux familiers par habitant.

Le phénomène français éveille notre intérêt parce que, par tradition, les gens d'origine latine ne sont pas pour les animaux familiers. En réalité, Le "boom animalier" actuel correspond à la croissance de l'économie. Dans un temps passé c'étaient souvent seulement les gens riches qui avaient des animaux familiers, mais maintenant 21 pour cent des chiens et des chats habitent dans les logements de travailleurs.

Les conséquences de la popularité des animaux familiers sont multiples. La consommation de nourriture pour animaux augmente de 25 pour cent par an depuis cinq ans et supporte une industrie de 300 millions de francs. Mais l'accroissement des animaux pose aussi de sérieux problèmes de pollution. "Pour me rendre au bureau je dois faire du slalom entre les excréments", dit un architecte.

Les difficultés sont encore plus accrues pour des animaux exotiques (comme les serpents) qui peuvent rarement être domestiqués. La vente des animaux exotiques est souvent scandaleuse. La majorité des gens ne se rendent pas compte que pour chaque animal sauvage capturé, des douzaines d'autres ont été massacrés ou perdent la vie pendant le transport. "Il est plus sensé," dit Francois de la Grange, producteur à la télévision des programmes sur les animaux, "de se limiter aux chiens et aux chats."

Mais il est aussi important de souligner la place de ces animaux dans notre société. En effet, la situation de l'animal dans nos villes frôle l'absurdité. L'homme se fait un animal "artificiel". Pour cet animal l'unique habitat est le salon de nos logis.

Dans ces circonstances, inévitablement beaucoup d'animaux familiers ont des phobies et d'autres problèmes. Les choses en sont parvenues au point où une nouvelle branche de la médecine vétérinaire a été conçue, la zoopsychiatrie. Son rôle est d'aider les chiens et les chats qui sont affligés, comme nous, des maladies de la civilisation urbaine.

MULTIPLE CHOICE QUESTIONS

Now that you have finished the passage read the following questions and choose the correct answer. You may look back at the passage when answering the questions:

1. Qu'est-ce qu'on compare dans le premier paragraphe?
 - a) Les institutions en France et en Angleterre
 - b) La popularité du "five o'clock tea" en France et en Angleterre
 - c) La passion pour les animaux en Angleterre et en France
 - d) La quantité d'habitants en France et en Angleterre

2. En France la popularisation des animaux a commencé
 - a) en même temps qu'elle a commencé en Angleterre.
 - b) en même temps que l'institution du five o'clock tea.
 - c) avec l'arrivée des gens d'origine latine.
 - d) avec l'expansion économique du pays.

3. Dans le passé le groupe qui avait le plus d'animaux familiers était
 - a) les gens sans problèmes d'argent.
 - b) les travailleurs.
 - c) les personnes qui habitaient en ville.
 - d) les gens d'origine latine.

4. La/les région(s) où il y a le plus d'animaux familiers est/sont
 - a) l'Angleterre.
 - b) la France.
 - c) l'Europe.
 - d) les pays latins.

5. Comment est-ce que la popularisation des animaux a un effet négatif sur l'environnement des villes françaises?
- a) Il y a trop d'animaux exotiques.
 - b) Les industries qui font de la nourriture animale causent des problèmes de pollution.
 - c) Beaucoup de personnes abandonnent leurs animaux.
 - d) Il y a beaucoup d'excréments animaliers dans les rues.
6. Beaucoup d'animaux familiers ont des problèmes psychologiques parce que/qu'
- a) il y a une nouvelle branche de la médecine vétérinaire - la zoopsychiatrie.
 - b) il y a trop de pollution dans les villes.
 - c) les animaux passent trop de temps à l'intérieur des maisons et des appartements.
 - d) les animaux exotiques peuvent rarement être domestiqués.
7. Pendant une période de cinq ans la demande de nourriture animale a grandi (has grown) par
- a) 25%.
 - b) 25% chaque année.
 - c) multiple de 25.
 - d) 300 millions de francs.
8. François de la Grange recommande
- a) qu'on regarde les programmes sur les animaux à la télé.
 - b) que les Français considèrent les problèmes causés par les animaux familiers.
 - c) que les Français n'achètent pas d'animaux familiers.
 - d) que les Français n'achètent pas d'animaux exotiques.
9. Quel est le thème principal du passage?
- a) Les effets économiques de la popularité des animaux familiers en France
 - b) Les raisons pour la popularité des animaux familiers en France
 - c) L'attitude irresponsable des Français envers (towards) les animaux familiers
 - d) Les problèmes psychologiques des animaux familiers en France

10. Beaucoup de Français ne savent pas que/qu'
- il y a des animaux artificiels.
 - on a développé une nouvelle branche de la médecine vétérinaire - la zoopsychiatrie.
 - beaucoup d'animaux exotiques ne survivent pas le transport en France.
 - les animaux causent des problèmes de pollution.
11. Quel adjectif représente bien l'attitude des français qui ont des animaux exotiques?
- Cruel
 - Indifférent
 - Scandaleux
 - Irrésponsable
12. Dans le passage on présente quatre idées. On commence le passage avec quelle idée?
- La condition psychologique des animaux familiers
 - La place historique des animaux familiers
 - l'effet économique du 'boom animalier'
 - Les effets négatifs du 'boom animalier'
13. Voici quatre phrases. Trois phrases ne sont pas correctes. Choisissez la phrase qui est correcte.
- Le 5 o'clock tea est maintenant plus populaire en France qu'en Angleterre.
 - Les Français massacrent beaucoup d'animaux exotiques.
 - Dans le passé les gens d'origine latine n'avaient pas beaucoup d'animaux familiers.
 - Les scientifiques français ont développé des animaux artificiels.
14. Voici quatre phrases. Trois phrases sont correctes. Choisissez la phrase qui n'est pas correcte.
- L'auteur est contre l'importation des animaux exotiques.
 - Les animaux familiers sont plus populaires en France qu'en Angleterre.
 - Les Français achètent plus de nourriture animale chaque année.
 - L'objectif de la zoopsychiatrie est de trouver des remèdes pour les maladies de la civilisation urbaine.

Please do not start the next section until
the teacher gives the signal to begin.

V3

PASSAGE Z

La colère = anger

Le nouveau patron de Paulette Lemaitre vient de lui donner sa première paye. Pour fêter l'occasion, elle invite ses amis à dîner au restaurant. Quand le garçon lui donne l'addition, elle voit que le prix est beaucoup plus élevé qu'elle ne pensait. Parce qu'elle ne veut pas se gêner devant ses amis, elle paie l'addition sans se plaindre. Mais intérieurement elle se déchaîne.

Daniel Dudevand, lui, vient d'acheter une belle télévision. L'image est magnifique. Dans le magasin, oui ... mais au foyer, c'est un vrai désastre. Il téléphone au commis, qui ne se dérange pas du tout pour l'aider. Indigné, Daniel écrit au directeur de la compagnie. Dans sa lettre, qui est remplie de détails, il ne laisse pas de doutes sur ses intentions s'il n'obtient pas satisfaction.

La colère est un des instincts les plus naturels, selon les psychiatres. Le premier cri du nouveau bébé est un cri de colère. Parvenu dans un monde où tout est indifférent, désagréable et inimical, le bébé se révolte et montre son indignation avec les seuls moyens qu'il détient: ses cris. C'est une réaction saine et naturelle.

Mais l'adulte, lui, sait-il encore montrer sa colère? Au lieu de se mettre en colère il avale souvent des tranquillisants qui lui causent des ulcères d'estomac! D'autres conséquences sont l'insomnie, l'irascibilité et la dépression nerveuse.

En effet, il n'est pas conseillé de chercher à changer le cours normal de la colère. Trop souvent cette colère instinctive et normale est remplacée par la haine et la violence qui sont beaucoup plus redoutables. La vraie colère fait souvent du bruit. Elle fait rarement du mal.

Contrairement à l'animosité qui est toujours intériorisée et nuisible, la colère et l'indignation sont des sentiments qui poussent à l'action; l'important est de les diriger vers des objectifs constructifs. Beaucoup de grandes oeuvres nobles et courageuses ont été inspirées par la colère.

Positive ou négative, la colère est une des réalités de la vie. C'est un sentiment qu'il ne faut pas nier, parce qu'une des choses les plus importantes pour la santé mentale est de savoir exprimer ses vraies émotions. La colère ne fait pas exception. Alors mettez-vous en colère!..... mais avec mesure!

PASSAGE Z

MULTIPLE CHOICE QUESTIONS

Now that you have finished the passage read the following questions and choose the correct answer. You may refer to the passage when answering the questions.

1. Quel est le problème dans le restaurant?
 - a) Le service n'est pas bon.
 - b) La nourriture n'est pas bonne.
 - c) Le garçon n'est pas gentil.
 - d) Le repas coûte trop d'argent.

2. Pourquoi est-ce que Paulette Lemaitre décide de dîner au restaurant?
 - a) Parce que c'est la première fois qu'elle a assez d'argent pour dîner au restaurant.
 - b) Parce qu'elle a un nouvel emploi et elle veut le célébrer avec des amis.
 - c) Parce qu'elle veut inviter ses amis à dîner avec elle.
 - d) Parce qu'elle aime beaucoup son nouveau patron.

3. Décrivez les émotions de Paulette Lemaitre après l'incident dans le restaurant?
 - a) Elle était calme.
 - b) Elle était furieuse.
 - c) Elle était indifférente.
 - d) Elle était heureuse.

4. Quelle est la réaction dans le magasin au problème de Daniel Dudevant?
 - a) On lui parle au téléphone.
 - b) On admet que c'est un désastre.
 - c) On lui encourage d'écrire une lettre au directeur de la compagnie.
 - d) On est indifférent au problème.

5. Quelle est la réaction de Daniel Dudevant à son problème?
 - a) Il est indifférent.
 - b) Il ne se met pas en colère.
 - c) Il se met en colère d'une manière froide et calme.
 - d) Il explose de rage.

6. Voici quatre phrases. Trois phrases ne sont pas correctes. Choisissez la phrase qui est correcte.
- a) Les amis de Paulette Lemaitre ont trouvé la situation dans le restaurant embarrassante.
 - b) La réaction de Paulette Lemaitre était supérieure à la réaction de Daniel Dudevant.
 - c) La réaction de Daniel Dudevant était un désastre.
 - d) La lettre que Daniel Dudevant a écrit était longue.
7. Les psychiatres considèrent la colère du nouveau bébé comme
- a) quelque chose qui est positif.
 - b) quelque chose qui est indifférent.
 - c) quelque chose qui est désagréable.
 - d) quelque chose qui nous révolte.
8. Pourquoi est-ce que les adultes passent des nuits d'insomnie?
- a) Ils se mettent en colère trop souvent.
 - b) Ils ne se permettent pas de se mettre en colère.
 - c) Ils ont de la dépression nerveuse.
 - d) Les réponses a, b, et c sont correctes.
9. Voici quatre phrases. Trois phrases sont correctes. Choisissez la phrase qui n'est pas correcte.
- a) La colère est un instinct.
 - b) L'indignation est une émotion positive.
 - c) On prend des tranquillisants quand on a des ulcères d'estomac.
 - d) La colère est rarement dangereuse.
10. D'habitude la plus grande conséquence de se mettre en colère (n') est
- a) rien.
 - b) le mal
 - c) la violence.
 - d) le bruit.

11. En général quel groupe a la meilleure réaction à la colère?
- a) les nouveaux bébés
 - b) les adultes
 - c) les psychiatres
 - d) les personnes qui n'ont pas d'insomnie.
12. Le thème principal de ce passage est
- a) la colère est normale.
 - b) la colère crée des problèmes psychologiques.
 - c) la colère a souvent des conséquences négatives.
 - d) on ne peut pas contrôler la colère.
13. Qu'est-ce que l'auteur recommande?
- a) On visite des psychiatres quand on a des problèmes.
 - b) On se met en colère quelque fois.
 - c) On utilise la colère pour faire de grandes choses qui sont nobles.
 - d) Les réponses a), b), et c) sont correctes.
14. Voici quatre idées qui sont présentées dans le passage. Choisissez l'idée qui est présentée à la fin du passage.
- a) L'importance de la colère dans la vie des adultes
 - b) Les conséquences pour les adultes de se mettre en colère
 - c) Les conséquences pour les adultes de ne pas se mettre en colère
 - d) Quelques exemples typiques de la colère

Appendix B
Additional Conditions

V2

PASSAGE X

Papillon = Butterfly

L'autobiographie du prisonnier Henri Charrière, appelé Papillon à cause de son tatouage continue à fasciner l'opinion publique. Ce livre, écrit en 1969 a été un grand succès. Il a raconté au monde la sombre histoire des bagnards condamnés à rester dans la prison pénitentiaire de Guyane française.

Le récit de cette sinistre colonie pénitentiaire a scandalisé l'opinion publique non seulement en France mais d'un bout à l'autre du monde. C'est à cause de l'histoire des 13 ans d'incarcération de Papillon en Guyane française que le gouvernement français a décidé, pour des raisons humanitaires, de fermer pour toujours cet enfer où sont morts 70,000 prisonniers.

Le 26 octobre 1951 on condamne Papillon à la prison à vie pour un délit qu'il n'a pas commis. Il a seulement vingt-cinq ans. Par la fenêtre de sa petite cellule il voit une exécution à la guillotine une fois par semaine. Il n'y a même pas de cimetière pour les prisonniers. Quand un prisonnier est mort, on jette son corps au fond-marin.

Pendant toute sa captivité Papillon a seulement une pensée dans la tête: liberté. Il essaie de s'échapper huit fois sans succès. Il est toujours capturé. Une fois on le met dans une cage spécialement bâtie pour les animaux féroces. Cette cage est si petite qu'il est impossible de faire les cent pas. Là, on n'a pas la permission d'adresser la parole à la sentinelle; on n'a même pas la permission de crier à l'aide si on a peur de perdre la vie. En tout Papillon y reste muet pendant quarante-deux mois. C'est sa sentence pour avoir essayé de quitter la prison.

Après l'isolement dans cette horrible cage, Papillon est transféré à l'île du Diable, qui fait partie aussi de la colonie pénitentiaire de Guyane française. Là, il a toujours l'idée d'essayer encore une fois. Il prépare un genre de bateau avec des plantes de coco et deux sacs. Après soixante heures sous un soleil torride il parvient au Vénézuéla où il est adopté par une tribu d'Indiens primitifs. Papillon reste six mois avec ces Indiens avant de se rendre à Caracas. Arrivé dans la capitale vénézuelienne, il décide d'écrire ses mémoires. Le succès de son livre lui permet alors de vivre dans le luxe jusqu'à sa mort.

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VI

PASSAGE Y

Même l'Angleterre, où la passion pour les animaux est une institution aussi importante que le "five o'clock tea", est en seconde place. La France est maintenant en première place en Europe pour la quantité d'animaux familiers par habitant.

Le phénomène français est intéressant à analyser parce que, par tradition, les gens d'origine latine ne sont pas pour les animaux familiers. En réalité, le "boom animalier" actuel correspond au développement de l'économie. Dans un temps passé, c'étaient souvent seulement les gens riches qui avaient des animaux familiers, mais maintenant 21 pour cent des chiens et des chats habitent dans les maisons de travailleurs.

Les conséquences de la popularité des animaux familiers sont multiples. La consommation de nourriture pour animaux monte de 25 pour cent par an depuis cinq ans et supporte une industrie de 300 millions de francs. Mais la multiplication des animaux pose aussi de sérieux problèmes de pollution. "Pour aller au bureau je dois faire du slalom entre les excréments", dit un architecte.

Les difficultés sont encore plus grandes pour les animaux exotiques (comme les serpents) qui peuvent rarement être domestiqués. La manière de vendre les animaux exotiques est souvent scandaleuse. La majorité des gens ne réalisent pas que pour chaque animal sauvage capturé, des douzaines d'autres ont été massacrés ou perdent la vie pendant le transport. "Il est plus raisonnable," dit François de la Grange, producteur à la télévision des programmes sur les animaux, "de se limiter aux chiens et aux chats."

Mais il est aussi important de comprendre la place de ces animaux dans notre société. En effet, la situation de l'animal dans nos villes va devenir bientôt absurde. L'homme se fait un animal "artificiel". Pour cet animal l'unique habitat est le salon de nos appartements.

Dans ces circonstances, inévitablement beaucoup d'animaux familiers ont des phobies et d'autres problèmes. Les choses en sont arrivées au point où une nouvelle branche de la médecine vétérinaire a été formée, la zoopsychiatrie. Son rôle est d'aider les chiens et les chats qui ont, comme nous, des maladies de la civilisation urbaine.

Même l'Angleterre, où la passion pour les animaux est une institution aussi établie que le "five o'clock tea", est battue. On place maintenant la France au premier rang en Europe pour la quantité d'animaux familiers par habitant.

Le phénomène français éveille notre intérêt parce que, par tradition, les gens d'origine latine sont contre les animaux familiers. En réalité, le "boom animalier" actuel correspond à la croissance de l'économie. Auparavant c'étaient souvent seulement les gens riches qui avaient des animaux familiers, mais maintenant 21 pour cent des chiens et des chats habitent dans les logements de travailleurs.

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Mais il est aussi important de souligner la place de ces bêtes dans notre société. En effet, la situation de l'animal dans nos villes frôle l'absurdité. L'homme se fait un animal "artificiel". Pour cet animal l'unique habitat est le salon de nos logis.

Dans ces circonstances, inévitablement beaucoup d'animaux familiers ont des phobies et d'autres faiblesses. Les choses en sont parvenues au point où une nouvelle branche de la médecine vétérinaire a été conçue, la zoopsychiatrie. Son propos est d'aider les chiens et les chats qui sont affligés, comme nous, des maladies de la civilisation urbaine.

VI

PASSAGE Z

Se mettre en colère = to get angry

Le nouveau patron de Paulette Lemaître vient de lui donner sa première paye. Pour marquer l'occasion, elle invite ses amis à dîner au restaurant. Quand le garçon lui donne l'addition, elle voit que le prix n'est pas correct. Parce qu'elle ne veut pas perdre la face devant ses amis, elle paie l'addition sans rien dire. Mais intérieurement elle explose de rage.

Daniel Dudevand, lui, vient d'acheter une belle télévision. L'image est magnifique. Dans le magasin, oui ... mais à la maison, c'est un vrai désastre. Il téléphone au vendeur, qui ne fait rien pour l'aider. En colère Daniel écrit au directeur de la compagnie. Dans sa lettre, qui est riche en détails, ses intentions sont très claires s'il n'obtient pas satisfaction.

La colère est un des instincts les plus naturels, nous disent les psychiatres. Le premier cri du nouveau bébé est un cri de colère. Arrivé dans un monde où tout est indifférent, désagréable et hostile, le bébé se révolte et montre son indignation avec la seule manière qu'il a: ses cris. C'est une réaction saine et naturelle.

Mais l'adulte, lui, sait-il encore se mettre en colère? Souvent non! Au contraire, il prend des tranquillisants qui lui causent des ulcères d'estomac! D'autres conséquences sont l'insomnie, l'irritabilité et la dépression nerveuse.

En effet, il n'est pas bon de chercher à changer l'effet normal de la colère. Trop souvent cette colère instinctive et normale n'est pas utilisée. A sa place on voit l'animosité et la violence qui sont beaucoup plus dangereuses. La vraie colère fait souvent du bruit. Elle fait rarement du mal.

Contrairement à l'animosité qui est toujours intériorisée et destructive, la colère et l'indignation sont des sentiments qui incitent à l'action; l'important est de les guider vers des objectifs constructifs. Beaucoup de grandes actions nobles et courageuses ont été inspirées par la colère.

Positive ou négative, la colère est une des réalités de la vie. C'est un sentiment qu'il faut comprendre, parce qu'une des choses les plus importantes pour l'équilibre mental est de savoir montrer ses vraies émotions. La colère ne fait pas exception. Alors mettez-vous en colère!..... mais avec modération!

V2

PASSAGE Z

La colère = anger

Le nouveau patron de Paulette Lemaître vient de lui donner sa première paye. Pour fêter l'occasion, elle invite ses amis à dîner au restaurant. Quand le garçon lui donne l'addition, elle voit que le prix est beaucoup plus élevé qu'elle ne pensait. Parce qu'elle ne veut pas se gêner devant ses amis, elle paie l'addition sans rien dire. Mais intérieurement elle se déchaîne.

Daniel Dudevand, lui, vient d'acheter une belle télévision. L'image est magnifique. Dans le magasin, oui ... mais au foyer, c'est un vrai désastre. Il téléphone au commis, qui ne fait rien pour l'aider. Indigné, Daniel écrit au directeur de la compagnie. Dans sa lettre, qui est riche en détails, il ne laisse pas de doutes sur ses intentions s'il n'obtient pas satisfaction.

La colère est un des instincts les plus naturels, selon les psychiatres. Le premier cri du nouveau bébé est un cri de colère. Parvenu dans un monde où tout est indifférent, désagréable et hostile, le bébé se révolte et montre son indignation avec les seuls moyens qu'il a: ses cris. C'est une réaction saine et naturelle.

Mais l'adulte, lui, sait-il encore montrer sa colère? Souvent non! Au contraire, il avale des tranquillisants qui lui causent des ulcères d'estomac! D'autres conséquences sont les nuits sans sommeil, l'irritabilité et la dépression nerveuse.

En effet, il n'est pas bon de chercher à changer le cours normal de la colère. Trop souvent cette colère instinctive et normale n'est pas utilisée. A sa place on voit la haine et la violence qui sont beaucoup plus redoutables. La vraie colère fait souvent du bruit. Elle fait rarement du mal.

Contrairement à l'animosité qui est toujours intériorisée et nuisible, la colère et l'indignation sont des sentiments qui poussent à l'action; l'important est de les guider vers des objectifs constructifs. Beaucoup de grandes oeuvres nobles et courageuses ont été inspirées par la colère.

Positive ou négative, la colère est une des réalités de la vie. C'est un sentiment qu'il ne faut nier parce qu'une des choses les plus importantes pour la santé mentale est de savoir montrer ses vraies émotions. La colère ne fait pas exception. Alors mettez-vous en colère!..... mais avec mesure!

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