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ABSTRACT
        To determine children's knowledge of the less
frequent grammatical usages of words that may occur in more than one
part of speech, lists of such words were developed. The grammatical
functions of 1220 common words from two word counts were examined;
about 50% were found to be grammatically ambiguous. Data were
collected from about 1500 children in grades 3, 6, and 9 to learn in
what parts of speech 240 grammatically ambiguous words would be used
when the children wrote sentences illustrating their uses. About 55%
of these words were used "infrequently" in one or more of their
possible parts of speech. An intensive study was made of the
comprehension, by 2000 third, sixth, and ninth graders, of 63 words
with infrequently used grammatical functions. Findings showed that
for about 90% of these words, children had significantly more
difficulty in comprehending the infrequent grammatical functions than
the more usual grammatical ones. It was concluded that acquisition of
lexicogrammatical information about grammatically ambiguous words is
a slow process, far from complete at grade 9. Development of this
knowledge is moderately well correlated with general vocabulary
knowledge. It is recommended that English curriculums pay greater
attention to the explicit teaching of the less frequent grammatical
functions of ambiguous words. (Author/JMC)

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December 1970

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PREFACE

This research was conducted under a contract with the U. S. Office of Education that resulted from an application to the Committee on Basic Research in Education established jointly by the National Academy of Education and the National Academy of Sciences. It was intended to illustrate a kind of research that would be "basic" in the sense that it would make a contribution not only to educational practice but also to the scientific knowledge of human behavior. I am grateful for the opportunity thus afforded to conduct a major piece of research that I believe has succeeded in fulfilling this intention, at least in some measure.

I wish to acknowledge the cooperation of many school officials in making it possible to administer at their institutions the numerous tests and instruments that were developed in the course of this research:

For the pilot study described in Chapter III:

Princeton, N.J.:	Mr. Douglas McClure, Headmaster, Princeton Day School
Edison, N.J.:	Mr. Frank D'Aquila, Principal, Jefferson Junior High School Mr. John Ahern, Principal, Franklin School
Philadelphia, Pa.:	Mrs. Theresa Senesky, Principal, Lea School Mrs. Joan Chisholm, Guidance Counselor, Alain Locke School

For the normative study described in Chapter IV:

Atlantic City, N.J.:	Dr. Jack Eisenstein, Superintendent, Atlantic City Public Schools Mr. Ben Barkan, Director of Elementary Education, Atlantic City Public Schools Mr. William Faunce, Principal, Atlantic City High School Mr. Earl Johnson, Principal, Indiana Avenue School

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SUMMARY

The aim was to study the development of children's lexicogrammatical knowledge of words, in particular, their knowledge of the less frequent grammatical usages of words that may occur in more than one part of speech. To develop lists of such words, the grammatical functions of 1220 common words drawn from two word-counts were examined; about 50 percent were found to be grammatically ambiguous. Data were collected from about 1500 children in grades 3, 6, and 9 to determine in what parts of speech 240 grammatically ambiguous words would be used when the children were asked to write sentences illustrating their uses; about 55 percent of these words were found to be used "infrequently" (according to a certain criterion) in one or more of their possible parts of speech. An intensive study was made of the comprehension, by 2000 3rd, 6th, and 9th grade children, of 63 words with infrequently used grammatical functions. For about 90 percent of these words, it was found that the children had significantly more difficulty in comprehending the infrequent grammatical functions than in comprehending the more usual grammatical functions. In many cases, grammatical function _per se_ was a significant factor; in other cases, differential meanings of the words may also have been a factor. Developmental trends were noted, and it was concluded that acquisition of lexicogrammatical information about grammatically ambiguous words is a slow process that is far from complete even at the 9th grade level. Development of this knowledge is moderately well correlated with general vocabulary knowledge. Because lack of lexicogrammatical information is an important (and generally unrecognized) factor in comprehension difficulties, it is recommended that

the English language arts curriculum pay greater attention to the explicit
teaching of the less frequent grammatical functions of grammatically
ambiguous words. The psycholinguistic implications of the results are
discussed.

Chapter I

Introduction

<u>Background</u>

A great many words in the English language can be used in a variety
of grammatical functions. For example, the common word <u>like</u> can be used
in several senses as a noun ("He had his <u>likes</u> and dislikes"; "We won't
see his <u>like</u> again"), as a verb ("I <u>like</u> tomatoes"; "Come when you <u>like</u>"),
as an adjective ("He is <u>like</u> his father"; "Do it in <u>like</u> manner"), and as
a preposition ("He worked <u>like</u> a horse"). Colloquially, it is used also
as a conjunction (as in "Tell it <u>like</u> it is" and in a currently popular
ad slogan, "....taste <u>like</u> a cigarette should"), and as an adverb ("He
was kinda skinny, <u>like</u>"). But <u>like</u> is only one of very many words that
exhibit what we may term <u>grammatical ambiguity</u>. Sometimes a grammatically
ambiguous word carries the same basic sense in all its grammatical
manifestations, for example, the word <u>alert</u> (noun, verb, adjective), but
sometimes a number of different senses are found, as in the word <u>present</u>
(for which several senses, "gift," "offer, hand to" and "current time"
are found in noun, verb, and adjective usages).

Grammatical ambiguity is found in words in both spoken and written
form. If anything ambiguity is more frequent in the spoken forms of words
than in the written forms, for often the spelling of a word is a cue to
its grammatical part of speech (e.g., <u>pear</u> is a noun, while the homophonous
<u>pare</u> is a verb). In the research to be presented here, practical consid-
erations have dictated that the study be limited to the grammatical
ambiguities in <u>printed</u> words. The grammatical ambiguities of spoken words
could be made the subject of a further investigation.

Ambiguity in language can lead to difficulties in comprehension,
either because the language user does not have sufficient context to
disambiguate the message (i.e., decide in what sense it is to be taken),
or because the language user has not learned the meaning or sense in
which a given word is used in a particular message. The first case is
illustrated by a flatly ambiguous sentence like Time flies like an arrow,
which could be taken in several ways depending upon whether time is
construed as a noun, a verb, or an adjectival. The second case is
illustrated by an instance in which a professional acquaintance of the
writer's, even though highly educated, did not recognize that the phrase
"an earnest of his intentions" is grammatically correct, because he did
not know that earnest can be used as a noun, with a special meaning, as
well as an adjective.

One aspect of the competence of a language user is his knowledge of
the grammatical functions of lexical items. We know very little about how
children acquire this knowledge, or indeed, how much knowledge they acquire
an   t what rate. If children fail to acquire an adequate knowledge of
the grammatical functions of the words in their vocabulary, it is likely
that they will not understand language as well as they might.

This research was designed to yield information concerning the
development of children's knowledge of the grammatical functions of printed
words in English, and to see to what extent any lacks in this knowledge
might inhibit their understanding of language.

The motivation for this research was both practical and theoretical.

On the practical side, it seems obvious that any information that could
be gained concerning developmental trends in language understanding would
be of use in promoting the growth of language competence through education.
ators have found much use for vocabulary studies, but these studies have

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paid very little attention to the grammatical functions of words. One
can find instances of words that are assigned high frequencies in word-
lists but that can appear in very unusual meanings and grammatical
functions. A good example is the word are, which is one of the most
frequent words in the English language. It nearly always appears as one
of the forms of the verb to be, but it has a homonym, are, that refers to
a unit in the metric system. In this meaning are is a noun, but of course
the frequency with which the word occurs in this meaning is very low. We
would expect a child to have difficulty in comprehension if he meets the
word are in its noun function. The word "are" is an extreme case, but if
we consider the many grammatically ambiguous words of more moderate
frequency, it becomes obvious that frequency lists may be very misleading
when they do not take grammatical function into account. Teachers and
others concerned with preparing instructional material need information on
the relative frequencies of different manifestations of lexical items.
They also need information on the extent to which difficulties in
comprehending language are due to failures in understanding the grammatical
functions of words; if such difficulties are indeed found to be associated
with failures in understanding grammatical functions, it may be desirable
to develop special materials to help pupils learn a generalized skill of
interpreting words in uncommon grammatical functions. This research has
sought to provide such information.

On the theoretical side, this research was motivated by the idea
that a study of the ways in which children perceive the grammatical functions
of words would contribute towards better understanding of fundamental
processes of the learning and comprehension of language. One important
aspect of the understanding of language is the assignment of grammatical
structure to sentences that are heard or read. "Understanding" a sentence

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like <u>Time flies like an arrow</u> involves deciding that its grammatical structure
(at least at a surface level) is

Time	flies	like an arrow
(Noun)	(Verb)	(Prepositional phrase)

rather than some other possible interpretation. The individual's ability
to interpret such sentences depends in part upon his knowledge of the
grammatical information contained in lexical items. We know little,
however, about the development of such grammatical information in the
individual.

This is, in fact, a matter of current interest in linguistic and
psychological theory. Katz and Postal (1964) postulate that users of a
language acquire knowledge of the "dictionary entries" of the lexical
items both in terms of syntactic markers and semantic markers. The
syntactic markers would involve information as to what part or parts of
speech the word can be used. There has been controversy over whether
the dictionary entries involve only some "base form" of the item in a
given part of speech, with transformational rules postulated to take care
of derivations to other parts of speech (the "transformationalist hypothesis"),
or, on the contrary, involve simultaneously <u>all</u> the parts of speech in
which an item appears (the "lexicalist" hypothesis). Whitaker (1970) presents
evidence from studies with aphasics that he claims supports the lexicalist
hypothesis.

In effect, this study is an investigation of one aspect of what may be
called "parsing behavior," i.e., the individual's assignment of grammatical
classifications to lexical items. <u>Parsing</u> is a word that traditionally
means "assigning parts of speech"; it usually denotes the explicit verbal
classification of words in sentences, i.e., calling them nouns, verbs, etc.,
indicating the relationships of the words in a sentence by showing
case structure, immediate constituents, etc. In our usage of the word here,

however, we refer to the <u>implicit</u> perception of words as having certain

grammatical properties, even if this perception takes place completely

out of awareness.

Ordinarily, grammatical functions of words are cued by the total

linguistic and nonlinguistic contexts in which they appear. The context

is often minimal, but not always so. Examples of minimal linguistic

contexts for "parsing" the word <u>alert</u> as noun, verb, or adjective are the

following: "An alert!" "Alert him!" and "Be alert!"

Nevertheless, for analytical purposes it is useful to study the

language user's perceptions of the grammatical functions of lexical items

in isolation. It is possible that such perceptions play some fundamental

role in understanding and parsing words even when they are in context,

and that the effect of context in normal language messages is to modulate

in some special way the "parsing" that occurs when the word is presented

in isolation. If so, it would be desirable to study under what conditions

this modulation takes place, and there would be a need for "baseline"

studies of grammatical perceptions of words in isolation. The present study

is designed to obtain such baseline information for a fairly representative

sample of grammatically ambiguous words, at several school grade levels.

There is a long history of attempts to study individuals' responses to

words in isolation. Rowland (1907) presented words in isolation in different

parts of speech and asked her one subject to introspect on "how her state

of mind varied as she passed from the meaning of one word to the next,"

e.g., as she passed through the series <u>entrance</u>, <u>enter</u>, <u>in</u>, <u>inner</u>, or the

series <u>weight</u>, <u>lift</u>, <u>heavy</u>, <u>under</u>. Psychologists have expended much effort

in obtaining "free associations" to words in isolation, but they have paid

little attention to the parts of speech in which either the stimulus words

or the response words appeared (Cramer, 1968). It has been noted, however,

that adults are more likely than children to respond with a word in the same
part of speech as the stimulus word, a fact that may possibly indicate that
adults are more aware of the part-of-speech classifications of the stimulus
words. There has been little investigation of responses to stimulus words
that are ambiguous with respect to part-of-speech. In two recent
investigations of responses to homographic or homonymic words (Cramer, 1970;
Galbraith and Taschman, 1969) no consideration was given to the grammatical
classifications of the stimuli or the responses.

The present study will not use the free association technique, but
rather a technique whereby the subject is asked to use a given word in a
sentence. There is, of course, ample precedent for such a procedure in
the common school practice of teachers. In psycholinguistic studies, it
has been used quite frequently, e.g., by Ervin (1963), Faibish (1961), and
Taylor (1969). The presumption is that the grammatical part of speech in
which the word is used in a sentence will tend to indicate its "predominant"
part of speech. Rosenzweig and McNeill (1962) noted that when a word is
presented in isolation it is usually taken in the sense of its predominant
meaning; it is reasonable to assume that it would also be usually taken
in its "predominant" grammatical function.

The study was also designed to yield information that might have a
bearing on the possibility that certain grammatical functions for a lexical
item may be more basic to the description of that item than other grammatical
functions that could be regarded as derived from the basic function. For
example, "alert" is perhaps basically an adjective describing a certain
state; in several dictionaries, at least, it is listed first as an adjective.
The verb "alert" may be derived from this by a semantic transformation that
means "cause to be X," and the noun "alert" is perhaps still a further
derivation by a transformation that means "an occasion when one is caused
to be X.' Information on the grammatical functions of isolated words could

be helpful in developing and evaluating theories having to do with such
relations, although the assumption that the most _frequent_ parsing of a word
presented in isolation corresponds to the word's "basic" grammatical
function would need careful examination.

Finally, the study was designed with the thought that psycholinguistic
research, as well as various kinds of research in verbal learning, could
profit from the availability of lists of grammatically ambiguous and
unambiguous words with appended information on the parsings in which they
are most frequently perceived. Researchers in these fields have often had
need for such information (see, for example, Hall and Crown, 1970; Shapiro
and Palermo, 1967; Taylor, 1969).

In summary, the problems investigated in this study were as follows:

(1) How frequently is it the case that words in English have multiple
grammatical functions? What are some of these words, and what are some
of the words that are unambiguous grammatically? In what grammatical
functions are grammatically ambiguous words perceived most frequently when
presented in isolation? To what extent is grammatical ambiguity associated
with polysemy?

(2) To what extent does the school-age child have difficulty in
understanding language because he does not know the meanings of words when
they appear in their less frequent grammatical usages, or because he has
not learned to interpret them in such usages? If so, is this because he
is generally unaware that words may have the property of multiple grammatical
uses, or is it simply because he has not experienced the unusual uses with
sufficient frequency?

(3) What developmental trends are there in the ability to interpret
the less frequent grammatical usages of words? How does this ability
correlate with general verbal ability?

(4) What implications for linguistic and psycholinguistic theories can be drawn from the findings?

Hypotheses

(1) Words having multiple grammatical functions are quite frequent in the English language, both in terms of types and tokens. Multiple grammatical functions will occur somewhat more frequently among high-frequency than low-frequency words, but even low-frequency words will often exhibit multiple grammatical functions.

(2) School-age children will have more difficulty in understanding sentences in which certain words are used in relatively less frequent grammatical functions, than sentences in which these words appear in more frequent grammatical functions.

(3) There will be age-developmental trends in the ability to understand sentences containing words used in less frequent grammatical functions; these trends will also be correlated with general verbal ability as measured by a vocabulary test.

Related literature

The problems set forth above seem never to have been directly studied. Petty, Herold, and Stoll (1968) point out that investigations in the field of vocabulary teaching have paid little or no attention to grammatical factors. There are some studies (e.g., Hurlburt, 1954) that have investigated the relative difficulty of different parts of speech, but no studies have been found that have been concerned with the relative difficulty of different grammatical usages of single lexical items. Many investigations have had to do with children's knowledge of the multiple meanings of homophonous or homographic words (Berwick, 1952; Howards, 1964; Lovell, 1941; Russell, 1954; ell and Saadeh, 1962; Thevaos, 1951) but these touch only indirectly

on the problems of multiple grammatical functions. Detailed studies of
children's difficulties in interpreting textual materials (e.g., Jenkinson,
1957) suggest that some of these difficulties may be due to children's
inability to interpret words in unusual grammatical functions. This
suggestion is also borne out by the common experience of classroom teachers.

On the other hand, there is some reason to think that when a given
word carries the same basic semantic content in its various grammatical
usages, children may have little difficulty in interpreting it in its
various usages. Brown (1957) showed that even pre-school children have
little difficulty in using grammatical context to determine part-of-speech
class of a novel (nonsense) word; one might think, therefore, that school-
age children would have little difficulty in interpreting novel grammatical
functions of familiar words. An observation made by two investigators of
child language acquisition may be relevant at this point:

"Richard's performance with parts of speech is also revealing. At
first, he seemed to classify words into parts of speech in strict adherence
to adults' models. For instance, of the 30 stems in our records which
occurred with -ing at the age of 26-27 months, all are verbs in adult
English. By 30 months, however, Richard began to use words in other parts-
of-speech than he heard them. The best examples, as usual, are those in
which differences from adult English make the process clear. At 30 months,
he said something about an airplane which was 'loud,' then spoke the phrase
'a louding plane.' At 30 months he protested a vigorous scrubbing by
saying, 'Don't wash that poor little sore, because it's still soring.' At
33 months he announced playfully, 'I'll stomach you,' and pushed his mother
in the stomach" (Carlson and Anisfeld, 1969, p. 573).

Brown (1957) observed that in very early language acquisition, the
nouns children learn are in most cases names of concrete things, and the

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verbs are mostly names for observable actions. The implicit meaning of the form-class noun for the young child is therefore apparently "concrete object" while the implicit meaning of the verb form-class is "action." Up to the age of 26-27 months, the child observed by Carlson and Anisfeld must have been adhering to these form-class meanings, but later, the form-class allegiances of words started to spread over several categories. Carlson and Anisfeld's observations suggest that one of the problems faced by the young child at a certain stage is to learn what restrictions adult language imposes on lexical items: for example, that adult language requires that loud be used as an adjective. By the time the child reaches school age it may be the case that he is still learning these restrictions, and it is even possible that his learning of the grammatical functions most frequently associated with certain lexical items goes so far as to prevent him from recognizing and properly interpreting unusual grammatical functions for those items. For example, the 3rd-grade child may no longer be able to appreciate the use of "louding" in "a louding plane." Likewise, he might not be able to interpret properly the use of a word like FREE as a verb after having learned that it is normally used as an adjective.

Thus, it may be said that the previous literature on the question of children's interpretations of words in unusual grammatical functions is almost nonexistent, and that what little literature there is is highly inconclusive.

Chapter II

Identification of MGF Words

Introduction

Before the central problems of this investigation could be attacked, it was necessary to develop lists of words that have multiple grammatical functions (MGF words). For certain purposes, it was also desirable to develop lists of words that are unambiguous as to grammatical function (UGF words). For the MGF words it was necessary to obtain data that would tell what the more frequent and less frequent grammatical functions are. This chapter reports how these lists were developed and what kinds of information were obtained for the MGF and UGF words that were identified.

Obtaining samples of MGF and UGF words

As far as this investigator was aware, no lists of MGF and UGF words were available in the literature of vocabulary studies, lexicography, or even computational linguistics. It was therefore necessary to develop lists for the special use of this project.

We could, of course, have developed lists by examining all the words in given frequency ranges of certain word-lists such as the Thorndike-Lorge frequency count (Thorndike and Lorge, 1944) or the recent Brown University count (Kučera and Francis, 1967), using dictionary information on the occurrence of various grammatical functions. The plan of the investigation called for the use of MGF and UGF words that would be appropriate over a fairly wide range of school grades--from grade 3 to grade 9. It was judged that the words to be used should range over the first ten thousand in frequency in Thorndike's (1932) earlier compilation. Examining ten thousand words for multiple grammatical functions would have been too large a task to accomplish within the time period planned for the investigation (in view of the other

tasks that had to be performed). It was decided, however, to examine a 5% random sample of the first ten thousand words in frequency according to Thorndike's (1932) list. This earlier, 1932, list was used instead of the later, 1944, compilation that is better known, because unlike the latter it gives a rank-index, by thousands, for each word. Thus, a word listed with the rank-index "7" is one that appeared somewhere in ranks 6001-7000 in frequency in Thorndike's corpus. Rank-indices from 1 to 5 also are suffixed by the letters "a" or "b" to provide a further differentiation into groups of 500; thus, a word listed as having a rank-index of 3a was one that appeared among ranks 2001-2500 in Thorndike's compilation.

By random selection procedures, 50 words were chosen from each group of 1000 words by frequency in the Thorndike list. The procedures insured also that for the first 5000 words, 25 words would be chosen from each group of 500 words. There was, however, one constraint upon the random selection process: no proper names or otherwise capitalized words were chosen. Wherever such a word would have been chosen by the selection process, it was replaced with a noncapitalized word having the same rank-index. The list of 500 words so chosen is included in the tabulation in Appendix A. The list includes, of course, all varieties of words--nouns, verbs, adjectives, prepositions, etc., although the prime interest of this investigation was centered on grammatical ambiguities of words across the categories noun, verb, and adjective.

The writer and several research assistants then went through the list of 500 words to make an initial judgment as to their grammatical functions. For each word, a series of numbers was assigned (hereafter called an "MGF vector") to indicate the parts in ten (perdecems) into which the incidences of the word in four grammatical classifications were judged to fall: noun,

verb, adjective, and other, respectively. Thus, the word LAST was assigned

the MGF vector 1, 2, 6, 1 , meaning that the word was judged to occur as

a noun about 10% of the time, a verb about 20% of the time, an adjective

about 60% of the time, and "other" (adverb) about 10% of the time. Sometimes

the numeral 1 was prefixed by a minus sign to indicate that the word was

used very rarely in a particular grammatical function; for example, the

word TAKE was assigned the MGF vector -1, 9, 0, 0 because it was thought to

occur only very rarely as a noun.

A number of sources were used as guides in assigning the MGF vectors.

Many of the words were looked up in the Oxford English Dictionary to find

authority for various grammatical usages. The most helpful source was Lorge

and Thorndike's (1938) semantic count, which gives frequencies (based

on a corpus of about 4,500,000 tokens) for each meaning and grammatical

function of a word, keyed to the entries in the Oxford English Dictionary.

Another helpful source was West's (1953) General Service List of English Words,

which gives information on grammatical and semantic frequencies of about 2000

words. West's frequencies (expressed in percentages) are mainly derived

from Lorge and Thorndike's data, however, and are sometimes modified to

reflect British (as opposed to American) usage. Nevertheless, in a number

of instances the information in West served to complete what was missing from

the Lorge and Thorndike semantic count. In the case of many words, however,

neither Lorge-Thorndike nor West gave any useful information, and it was

necessary to rely on the coder's native language intuitions. Generally,

the two or three people who assigned the MGF vectors were able to arrive

at a reasonable consensus. The MGF vectors assigned at this stage were

regarded as only provisional, in any case; they were needed only in order to

develop lists of UGF and MGF words for use in later studies that would,

presumably, yield objective information concerning children's parsings of the

words when presented in isolation.

Actually, it should be noted that the MGF vectors were continually revised during the course of the project. It was somewhat humbling to find that in the original assignment of the vectors certain fairly frequent usages of the words had simply been overlooked. For example, in the original coding, the word OFFENSIVE had been regarded as an unambiguous adjective (MGF vector 0, 0, 10, 0); the noun use had not been noted. It became evident that a word presented in isolation often exerts such a powerful stimulus-value in a certain direction that one fails to perceive another possible stimulus-value even though it might be one encountered fairly frequently in certain contexts.

There were certain other problems in the assignment of the MGF vectors. We were dealing only with the "entry" forms of the words—not (in general) with their plurals, possessives, past tenses, participles, or gerunds. It happened, however, that two of the words resulting from the sampling procedure were clearly not base forms even though they were entries in the Thorndike compilation: SENT and TOOK. For the purposes of the tabulation, these were changed to SEND and TAKE, respectively. A serious problem was the assessment of words that are normally nouns, like CITY, that can be used also as attributive adjectives, as in "a city block." Generally, such words were not counted as adjectives unless they could, in the adjective usage, denote a distinct quality, e.g., CHOCOLATE. Reference was made to several dictionaries in deciding cases like these, although it should be said that dictionaries do not seem to follow consistent rules for handling such cases.

After the words had been assigned MGF vectors, they were sorted into the following classes:

    (1) Unambiguous nouns (N)

    (2) Unambiguous verbs (V)

    (3) Unambiguous adjectives (A)

    (4) Ambiguous, either noun or verb (but not adjective) (NV)

(5)   Ambiguous, either noun or adjective (but not verb) (NA)

(6)   Ambiguous, either verb or adjective (but not noun) (VA)

(7)   Ambiguous, either noun, verb, or adjective (NVA)

(8)   Ambiguous, some combination of noun, verb, and/or adjective with
      another part of speech (N, V, A, O)

(9)   Unambiguous "other" part of speech: preposition, conjunction, etc.

It was of interest to take these 500 words from the Thorndike list and
tabulate them by frequency rank-index and the above grammatical classifications.
The results of this tabulation are shown in Table 2.1. Several conclusions
emerge from an inspection of this table:

(1)   Grammatically ambiguous words are somewhat more likely to be found
among words that are listed as being of high frequency. To some extent, this
may be due to the well-known fact that words of high frequency are more
likely to have multiple meanings.

(2)   Grammatically unambiguous nouns increase in incidence as the frequency
decreases (or as the rank-index increases), but the proportions of unambiguous
verbs and adjectives remain fairly constant over the ten frequency groups.

(3)   The most frequent class of ambiguous words is Noun-Verb (NV)
words. The next most frequent is the Noun-Adjective class (NA), and there
are relatively few words in the remaining ambiguous classes.

(4)   About 43% of all the words sampled are grammatically ambiguous in
the sense defined here. Presumably, this is a good estimate of the proportion
of words in the first ten thousand of Thorndike's list that are grammatically
ambiguous. It should be noted that this figure is based on types, not tokens.
No estimate was made as to what the figure would be if it were based on tokens.

Table 2.1

Words in the Thorndike Sample, by Thorndike Frequency-Rank Index

and Grammatical Ambiguity Classification*

(Cell Entries Are Frequencies)

Thorndike Frequency-Rank Index	Unambiguous						Ambiguous							Total
	N	V	A	Other	Total	%	N-V	N-A	V-A	N-V-A	N-V-A Other	Total	%	Total
1	4	3	2	5	14	28.	22	4	1	4	5	36	72.	50
2	7	3	5	1	16	32.	20	7	0	4	3	34	68.	50
3	13	6	4	1	24	48.	20	3	-0	2	1	26	52.	50
4	17	5	4	1	27	54.	16	5	1	1	0	23	46.	50
5	12	9	7	0	28	56.	15	3	3	0	1	22	44.	50
6	14	7	6	0	27	54.	16	2	3	0	2	23	46.	50
7	18	8	5	0	31	62.	14	5	0	0	0	19	38.	50
8	16	8	16	0	40	80.	4	4	0	1	1	10	20.	50
9	25	8	5	0	39	78.	11	0	0	0	0	11	22.	50
10	23	9	7	1	40	80.	7	1	1	0	1	10	20.	50
Total	149	66	62	9	286		145	34	9	12	14	214		500
%	29.8	13.2	12.4	1.8		57.2	29.0	6.8	1.8	2.4	2.8		42.8	100.0

* Column heading abbreviations: N = Noun, V = Verb, A = Adjective.

All percentages are based on row totals.

Selection of a further sample

Inspecting the words contained in the Thorndike sample, we became convinced that this sample did not include a sufficient number of UGF and MGF words of relatively high frequency and familiarity to serve the purposes of the further studies that were planned. Many words in the fifth Thorndike thousand were judged to be somewhat difficult for 6th graders; a few were judged difficult even for 9th graders. It was decided that a large sample of words of relatively high frequency would be needed in order to select appropriate UGF and MGF words for subsequent phases of this investigation. This larger sample could, of course, have been obtained by further sampling from the Thorndike list. It was not obtained in this way because the writer learned of what seemed to be a better and more convenient source.

This source was a so-called Harvard Dictionary compiled by Philip Stone (personal communication; see Kelly, 1970) and his associates in the course of developing the General Inquirer procedure for content analysis (Stone, Dunphy, Smith, and Ogilvie, 1966). It consists of a list of 1178 words that occurred with frequencies of 10 or greater (i.e., $p \geq .000023$, $\log p \geq -4.634$) in a corpus of 430,397 words collected from 56 different sources from nine basic areas (conversational material, personal documents, dream reports, survey replies, TAT stories, literature, speeches, editorials, and folktales). Most of these words, then, could be regarded as being in adults' active vocabularies. The particular virtue of the list, however, was that (at least in the computer tape that was obtained from Dr. Stone) the frequencies of the several meanings and usages of the words, as coded by hand, were reported. From such information it became possible to estimate MGF vectors rather more accurately, we thought, than from the data in the Lorge Semantic Count or in West's General Service List, both of which were somewhat obsolete. The

Harvard Dictionary list, however, did not "parse" words into different grammatical

functions unless their meanings deserved separate entries.

A research assistant worked through the complete Harvard Dictionary

list to identify all words that could normally be used as nouns, verbs,

or adjectives, whether or not they were ambiguous in grammatical function.

This yielded a list of 768 such words (65.2% of the total list). These

words were then classified as to grammatical ambiguity in the same manner as

was the case for the Thorndike sample. An analysis of these words according

to the Thorndike frequency rank-indices is shown in Table 2.2. It may be

noted that the percentages of grammatically ambiguous and unambiguous words

for the Harvard Dictionary sample follow the same general trends as for the

Thorndike sample; the percentages, however, are not exactly comparable because

the Harvard Dictionary sample excluded words that were not normally nouns,

verbs, or adjectives.

It was found that 48 words occurred on both the Thorndike and the

Harvard Dictionary lists. The combined list, analyzed in Table 2.3 according to

the Thorndike rank-frequency indices and grammatical ambiguity classification,

comprised 1220 words. It included 615 words that had been judged to be

grammatically ambiguous, and since many of these were high-frequency words

it was thought to provide an adequate sample of words that could be used in

later phases of this investigation. The numbers of words available in

certain grammatical ambiguity classifications, however, were still rather small.

It appears that there are very few words in English whose entry forms

can be used as either verbs or adjectives, for example.

Table 2.2

Words in the Harvard Dictionary Sample, by Thorndike Frequency-Rank Index and Grammatical Ambiguity Classification*

(Cell Entries Are Frequencies)

Thorndike Frequency-Rank Index	Unambiguous					Ambiguous							Total
	N	V	A	Total	%	N-V	N-A	V-A	N-V-A	N,V,A Other	Total	%	Total
1	61	41	26	128	33.0	210	8	8	32	2	260	67.0	388
2	50	23	15	88	45.8	85	11	3	5	0	104	54.2	192
3	24	9	3	36	55.4	21	7	0	1	0	29	44.6	65
4	16	5	7	28	71.8	8	0	0	3	0	11	28.2	39
5	15	3	4	22	71.0	5	3	0	1	0	9	29.0	31
6	3	2	0	5	62.5	2	0	1	0	0	3	37.5	8
7	6	2	2	10	55.6	6	2	0	0	0	8	44.4	18
8	4	1	4	9	75.0	2	1	0	0	0	3	25.0	12
9-18	7	0	4	11	73.3	1	3	0	0	0	4	26.7	15
Total	186	86	65	337		340	35	12	42	2	431		768
%	24.2	11.2	8.5	43.9	43.9	44.3	4.6	1.6	5.5	0.3	56.1	56.1	100.0

* Column heading abbreviations: N = Noun, V = Verb, A = Adjective.

All percentages are based on row totals.

Table 2.3

Words in Combined Sample, by Thorndike Frequency-Rank

Index and Grammatical Ambiguity Classification*

(Cell Entries Are Frequencies)

Thorndike Frequency-Rank Index	Unambiguous						Ambiguous							Total	
	N	V	A	Other	Total	%	N-V	N-A	V-A	N-V-A	N,V,A Other	Total	%	Total	%
1	63	42	27	?	137	33.1	218	10	9	34	5	277	66.9	414	
2	57	24	16	1	98	42.6	103	16	3	7	3	132	57.4	230	
3	36	15	7	1	59	53.2	40	8	0	3	1	52	46.8	111	
4	33	10	11	1	55	61.8	24	5	1	4	0	34	38.2	89	
5	25	12	10	0	47	60.8	20	6	3	1	1	31	39.7	78	
6	17	9	6	0	32	55.2	18	2	4	0	2	26	44.8	58	
7	22	10	7	0	39	50.1	18	7	0	0	0	25	39.9	64	
8	20	9	19	0	48	78.7	6	5	0	1	1	13	21.3	61	
9	28	8	7	0	43	79.6	11	0	0	0	0	11	20.4	54	
10	23	9	8	1	41	80.4	7	1	1	0	1	10	19.6	51	
11-18	4	0	2	0	6	60.0	1	3	0	0	0	4	40.0	10	
Total	328	148	120	9	605	49.6	466	63	21	50	15	615	50.4	1220	
%	26.9	12.1	9.8	0.7	49.6		38.2	5.2	1.7	4.1	1.2		50.4		100.0

* Column heading abbreviations: N = Noun, V = Verb, A = Adjective.

All percentages are based on row totals.

Dale classifications

Various other kinds of information were developed for the final list of 1220 words, but only after the studies reported in Chapters III, IV, and V were already in progress. These types of information, therefore, could be used only in helping to interpret the results of those studies.

One type of information was represented by what were called "Dale ratings." Dale (1948) compiled a list of approximately 3000 words that he found to be known in reading by at least 80% of children in grade 4. Such words were assigned a Dale rating of "1." Later, Dale and Eichholz (undated) published an interim report on children's knowledge of words at grades 4, 6, 8, 10, and 12. Their lists were developed on the basis of vocabulary tests that were given to representative samples of children at these grade levels. "Dale ratings" of 2, 3, 4, 5, and 6 were assigned on the basis of the grade placement of the words, according to the key given below. However, it was found that many words appeared on several grade-lists, often because different meanings of the words were tested at the different grade levels. For our purposes, the ratings were assigned according to the grade level at which the word first appeared in any meaning and was known by 67% or better at that level. Some words were not found on any of Dale's lists, or if they were found, were known by fewer than 2/3 of the children in grade 12. The key for the "Dale ratings" is therefore as follows:

1 : The word occurs on Dale's (1948) list of approximately 3000 words known in reading by at least 80% of children in grade 4.

2 : At least one meaning of the word is known by at least 2/3 of children in grade 4, according to Dale and Eichholz (undated).

3 : At least one meaning of the word is known by at least 2/3 of children in grade 6.

4 : At least one meaning of the word is known by at least 2/3 of children in grade 8.

5 : At least one meaning of the word is known by at least 2/3 of children in grade 10.

6 : At least one meaning of the word is known by at least 2/3 of children in grade 12.

7 : The word does not appear on any of Dale's lists, or there is no meaning for the word that is known by as many as 2/3 of children in grade 12.

Table 2.4 presents a cross-classification of the words in the final sample by Thorndike frequency-rank index and Dale classification. The relation between Thorndike frequency-rank indices and Dale ratings is only moderate.

Coding of MGF words for polysemy ("semantic code")

It was anticipated that children's parsings of MGF words might be related to the degree of polysemy (multiple meaning) of these words. Therefore, the following codes were assigned:

0 : This code was assigned to all UGF words since there was no interest in this study in the possible polysemy of these words.

1 : This code was assigned to MGF words which were regarded as having fundamentally the same (one) meaning in the two or more parts of speech. Examples: AGE (NV), CHANCE (NVA), FILL (NV), FREE (NV), GRADUATE (NVA), HIRE (NV), SORROW (NV), TAKE (NV).

2 : Assigned to MGF words having two or more basic senses, each of which participates in the respective grammatical manifestations. Examples: PAGE (NV), TYPE (NV).

3 : Assigned to MGF words with multiple senses that are differentially

Table 2.4

Cross-Classification of Words in the Final Sample by

Thorndike Frequency-Rank Index and Dale Rating

Thorndike Frequency-Rank Index	Dale Rating							Total
	1	2	3	4	5	6	7	
1	396	6	14	4	0	0	1	421
2	137	15	58	15	2	2	4	233
3	42	11	43	11	1	0	1	109
4	24	11	32	17	5	1	0	90
5	11	11	33	12	3	3	5	78
6	9	3	26	7	4	2	7	58
7	5	7	18	14	11	2	7	64
8	3	5	17	16	11	1	8	61
9	4	3	12	8	6	3	18	54
10	1	3	11	4	10	9	13	51
11-18	1	0	2	0	1	3	3	10
Total	633	75	266	108	54	26	67	1229*

*This number includes nine further words derived from words in the basic sample.

distributed among grammatical parts of speech. For example,
PLANE (NVA) has the meaning "flat, level" as a noun, verb, and
adjective, and the meaning "tool for smoothing" as a noun or a verb.
Other examples: CARDINAL, GAME, INCENSE, KNOT, LINE, PLANK,
PRIMARY, SEASON, SWAMP.

4 : Assigned to MGF words in which the different senses occur exclusively
in different parts of speech. For example, GRAVE (NA) has the
meaning "burial place" as a noun, but the meaning "serious" as an
adjective. Other examples: NOVEL, PRIVATE, SKIRT, TARRY, UNIFORM.

It was often difficult to decide upon this semantic coding. For purposes
of analysis, it is probable that codes 2, 3, and 4 should be grouped.

The Dale ratings and semantic codes assigned to the words in the final
sample will be found in the tabulation in Appendix A. They will also be
found in various tables discussed in Chapters III, IV, and V.

Chapter III

A Pilot Experiment on a Possible Priming Effect in the Grammatical

Perception of Words Presented in Isolation

Introduction

The basic plan of the first phase of this study called for obtaining

information on the grammatical functions that children perceive in

grammatically ambiguous words presented in isolation. The technique to

be employed was that of asking children to use a given word in one or more

sentences. It seemed reasonable to assume that the part of speech in which

a word is most "naturally" perceived when presented in isolation would be

r..flected in the part of speech in which it is used in the first sentence

written by a respondent when he is asked to write one or more sentences

illustrating the use or uses of the word. It was believed further that by

inspection of the sentences written by the respondent, it would in

most cases be possible to determine in what part of speech the word

was in fact used. Data on the relative frequency with which samples of

children at several grade levels used a word in various parts of speech

would presumably yield norms for use in later phases of the study.

There was, however, a prior question to be answered before further

studies could be made. If a respondent were given a series of isolated

words, would the part of speech in which he used a given word be influenced

by the part of speech he used for a preceding word? That is, would his

part-of-speech use for word i create some sort of set that would partly

determine his part-of-speech use for word $(i + 1)$? If so, the collection

of data on any large number of words presented sequentially would require

control of the order in which the words were given, possibly by some

procedure of counterbalancing or randomization. There is some evidence in

the free association literature (Cramer, 1968, Chapter 2) that the type of
association given to a certain word is influenced by the nature of the words
immediately preceding the word in a list. For example, Wynne, Gerjuoy, and
Schiffman (1965) reported that the presentation of stimulus words likely to
elicit antonym responses could induce sets that influenced the responses given
to succeeding words in the list. A similar "priming" effect might occur in
connection with the parsing behavior being studied here.

In order to answer this question, as well as to explore the technique of
data collection that was proposed, a pilot experiment was conducted in which
the presentation of each grammatically ambiguous (MGF) word was preceded by
the presentation of a grammatically unambiguous (UGF) word that would almost
surely be perceived in a designated part of speech--a noun, a verb, or an
adjective. Thus, if there were any priming effect, the part of speech in which
the MGF word was used would tend to vary according to whether it was preceded
by a grammatically unambiguous noun, verb, or adjective.

Method

From the compilations of grammatically ambiguous words described in
Chapter II, four sets of 9 words each were selected, a total of 36 words.
The plan called for selecting the first set from Thorndike (1932) frequency-
rank categories 1 and 2, the second set from categories 3 and 4, the third set
from categories 5 and 6, and the fourth set from categories 7 and 8. However,
several minor deviations from this plan had to be permitted in order to select
a sufficient number of words for each set in view of the further constraints
that were placed upon the selection. Each set was to contain 3 NV words,
3 NA words, and 3 VA words. Furthermore, each set was to contain one with a
high MGF rating for the first part of speech and a low rating for the second
of speech, a second with the opposite of this condition, and a third with

approximately equal MGF ratings for the two parts of speech. For example, the three NV (noun-verb) words selected at Level I (Thorndike indices of 1 or 2) were BLOSSOM (MGF vector 8 2 0), JUMP (MGF vector 2 8 0), and GLANCE (MGF vector 6 4 0). The purpose was to see whether the priming effect, if any, would be stronger when the MGF ratings were approximately equal.

For each set of nine MGF words, nine UGF words were identified in the compilations with Thorndike indices approximately matched with those of the MGF words; of these, three were nouns, three were verbs, and three were adjectives.

Three alternate test forms were then constructed for each of the four levels (a total of 12 forms) by assigning the UGF words to odd-numbered positions and the MGF words to even-numbered positions. The MGF words were the same and had constant positions in the three forms for a given level. The UGF words, however, were distributed among the three forms in different random orders in such a way that for a given form, there were 3 N words, 3 V words, and 3 A words in the odd-numbered positions, and also such that across the three forms, each MGF word was preceded by a noun in one form, a verb in a second form, and an adjective in a third form. Table 3.1 gives the complete structure of the 12 forms, with the MGF vectors and Thorndike frequency-rank indices indicated for each word used.

Each test form had a cover page giving instructions; the same cover page was used for all 12 forms. (A sample form is shown in Appendix B). The instructions read as follows:

"We want to find out how you and others in your grade use certain words."

"Look at each word and make up a short, complete sentence that shows how you might use it. Write the first sentence that you think of."

"Then, if you can think of other ways to use the word, write one or two more sentences."

Table 3.1

MGF and UGF Words Used in the First Pilot Experiment, with

Grammatical Classification, MGF Vector, and Thorndike Frequency-Rank Index

Level I

Item No.	UGF Word (Odd-Numbered Items)			MGF Word (Even-Numbered Items, All Forms)
	Form A	Form B	Form C	
1,2	COUNTRY (N, 10 0 0, 1a)	REAL (A, 0 0 10, 1b)	SEND (V, 0 10 0, 1a)	SAVAGE (NA, 4 0 6, 2b)
3,4	SEND (V, 0 10 0, 1a)	HONEST (A, 0 0 10, 2a)	COUSIN (N, 10 0 0, 2a)	LIVE (VA, 0 9 1, 1a)
5,6	COUSIN (N, 10 0 0, 2a)	SEND (V, 0 10 0, 1a)	AFRAID (A, 0 0 10, 1b)	BLOSSOM (NV, 8 2 0, 2a)
7,8	REAL (A, 0 0 10, 1b)	COUSIN (N, 10 0 0, 2a)	EXPLAIN (V, 0 10 0, 2a)	GENERAL (NA, 1 0 9, 1a)
9,10	ENTER (V, 0 10 0, 1b)	AFRAID (A, 0 0 10, 1b)	COUNTRY (N, 10 0 0, 1a)	FREE (VA, 0 1 9, 1a)
11,12	EXPLAIN (V, 0 10 0, 2a)	COUNTRY (N, 10 0 0, 1a)	HONEST (A, 0 0 10, 2a)	GLANCE (NV, 6 4 0, 2b)
13,14	HONEST (A, 0 0 10, 2a)	PRINCE (N, 10 0 0, 1b)	ENTER (V, 0 10 0, 1b)	INSTANT (NA, 9 0 1, 2b)
15,16	AFRAID (A, 0 0 10, 1b)	ENTER (V, 0 10 0, 1b)	PRINCE (N, 10 0 0, 1b)	DIRECT (VA, 0 6 4, 1b)
17,18	PRINCE (N, 10 0 0, 1b)	EXPLAIN (V, 0 10 0, 2a)	REAL (A, 0 0 10, 1b)	JUMP (NV, 2 8 0, 2a)

Table 3.1 (continued)

Level II

UGF Word (Odd-Numbered Items)

Item No.	Form A	Form B	Form C	MGF Word (Even-Numbered Items, All Forms)
1,2	CAMEL (N, 10 0 0, 4b)	DESPERATE (A, 0 0 10, 4a)	ARISE (V, 0 10 0, 3a)	ELDER (NA, 2 0 8, 3b)
3,4	ARISE (V, 0 10 0, 3a)	PERSONAL (NA, -1 0 9, 3b)**	OVEN (N, 10 0 0, 3b)	SPARE (VA, 0 8 2, 2a)
5,6	OVEN (N, 10 0 0, 3b)	ARISE (V, 0 10 0, 3a)	RAINY (A, 0 0 10, 4a)	SCREEN (NV, 9 1 0, 4a)
7,8	DESPERATE (A, 0 0 10, 4a)	OVEN (N, 10 0 0, 3b)	SOFTEN (V, 0 10 0, 4b)	MORAL (NA, 1 0 9, 3a)
9,10	ORGANIZE (V, 0 10 0, 4b)	RAINY (A, 0 0 10, 4a)	CAMEL (N, 10 0 0, 4b)	LAST (NVA, 1 2 7, 1a)
11,12	SOFTEN (V, 0 10 0, 4b)	CAMEL (N, 10 0 0, 4b)	PERSONAL (NA, -1 0 9, 3b)**	WAX (NV, 4 6 0, 3a)
13,14	PERSONAL (NA, -1 0 9, 3b)**	LANTERN (N, 10 0 0, 4b)	ORGANIZE (V, 0 10 0, 4b)	INDIVIDUAL (NA, 7 0 3, 3a)
15,16	RAINY (A, 0 0 10, 4a)	ORGANIZE (V, 0 10 0, 4b)	LANTERN (N, 10 0 0, 4b)	MATURE (VA, 0 5 5, 4a)
17,18	LANTERN (N, 10 0 0, 4b)	SOFTEN (V, 0 10 0, 4b)	DESPERATE (A, 0 0 10, 4a)	DIP (NV, 2 8 0, 3a)

**In an early compilation of the MGF words, PERSONAL had been regarded as an unambiguous adjective; after this pilot study was done, it was realized that it could also be regarded as a noun (meaning "a personal item as in a newspaper"), though with low frequency.

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Table 3.1 (continued)

Level III

Item No.	UGF Word (Odd-Numbered Items)			MGF Word (Even-Numbered Items, All Forms)
	Form A	Form B	Form C	
1,2	RAINFALL (N, 10 0 0, 6)	ABSURD (A, 0 0 10, 6)	DISTRIBUTE (V, 0 10 0, 5a)	OFFICIAL (NA, 5 0 5, 3a)
3,4	DISTRIBUTE (V, 0 10 0, 5a)	LONESOME (A, 0 0 10, 5a)	ORCHESTRA (N, 10 0 0, 5b)	ANIMATE (VA, 0 9 1, 6)
5,6	ORCHESTRA (N, 10 0 0, 5b)	DISTRIBUTE (V, 0 10 0, 5a)	UNDISTURBED (A, 0 0 10, 6)	CHART (NV, 9 1 0, 5b)
7,8	ABSURD (A, 0 0 10, 6)	ORCHESTRA (N, 10 0 0, 5b)	RENOUNCE (V, 0 10 0, 5a)	PRIMARY (NA, 1 0 9, 5b)
9,10	WEAKEN (V, 0 10 0, 6)	UNDISTURBED (A, 0 0 10, 6)	RAINFALL (N, 10 0 0, 6)	DIZZY (VA, 0 1 9, 6)
11,12	RENOUNCE (V, 0 10 0, 5a)	RAINFALL (N, 10 0 0, 6)	LONESOME (A, 0 0 10, 5a)	CHISEL (NV, 4 6 0, 6)
13,14	LONESOME (A, 0 0 10, 5a)	COMPETITION (N, 10 0 0, 6)	WEAKEN (V, 0 10 0, 6)	CARDINAL (NA, 7 0 3, 6)
15,16	UNDISTURBED (A, 0 0 10, 6)	WEAKEN (V, 0 10 0, 6)	COMPETITION (N, 10 0 0, 6)	LIMP (VA, 0 4 6, 5b)
17,18	COMPETITION (N, 10 0 0, 6)	RENOUNCE (V, 0 10 0, 5a)	ABSURD (A, 0 0 10, 6)	DAZZLE (NV, 1 9 0, 5a)

Table 3.1 (continued)

Level IV

UGF Word (Odd-Numbered Items)

Item No.	Form A	Form B	Form C	MGF Word (Even-Numbered Items, All Forms)
1,2	LIMITATION (N, 10 0 0, 8)	CHILLY (A, 0 0 10, 8)	PREDICT (V, 0 10 0, 7)	PENITENT (NA, 4 0 6, 7)
3,4	PREDICT (V, 0 10 0, 7)	FRAGILE (A, 0 0 10, 8)	TURPENTINE (N, 10 0 0, 7)	TARRY (VA, 0 9 1, 5A)
5,6	TURPENTINE (N, 10 0 0, 7)	PREDICT (V, 0 10 0, 7)	DURABLE (A, 0 0 10, 7)	BADGER (NV, 9 1 0, 7)
7,8	CHILLY (A, 0 0 10, 8)	TURPENTINE (N, 10 0 0, 7)	SHELVE (V, 0 10 0, 7)	RADICAL (NA, -1 0 9, 7)
9,10	ENCIRCLE (V, 0 10 0, 8)	DURABLE (A, 0 0 10, 7)	LIMITATION (N, 10 0 0, 8)	TIDY (VA, 0 1 9, 10)
11,12	SHELVE (V, 0 10 0, 7)	LIMITATION (N, 10 0 0, 8)	FRAGILE (A, 0 0 10, 8)	TINGE (NV, 6 4 0, 8)
13,14	FRAGILE (A, 0 0 10, 8)	BURNER (N, 10 0 0, 8)	ENCIRCLE (V, 0 10 0, 8)	EPIDEMIC (NA, 8 0 2, 8)
15,16	DURABLE (A, 0 0 10, 7)	ENCIRCLE (V, 0 10 0, 8)	BURNER (N, 10 0 0, 8)	EXEMPT (VA, 0 5 5, 6)
17,18	BURNER (N, 10 0 0, 8)	SHELVE (V, 0 10 0, 7)	CHILLY (A, 0 0 10, 8)	HUDDLE (NV, 9 1 0, 7)

These instructions were followed by four examples, three of them filled
out and the fourth presented for the child to try for himself. The first
example utilized the UGF word ASHORE, and only one sentence was given as
an illustration. The second and third examples used the MGF words CAMP and
LEAN; the illustrative sentences used CAMP first as a noun and then as a verb,
and LEAN first as a verb and then as an adjective. CAMP was chosen for an
example because it carries the same basic meaning in both noun and verb forms,
while LEAN was chosen because the verb sense is quite different from the
adjective sense. CROSS was chosen as an example for the child to try for himself
because it exhibits considerable polysemy; it is an NVA word in which both same
and different meanings occur across grammatical parts of speech. The purpose
of the instructions was to suggest, but only by implication, that the several
sentences that could be given might exemplify not only different meanings
of a word but also different parts of speech.

The reason for asking the subjects to give more than one sentence, if
they could think of more than one way to use the word, was to see to what extent
they might tend to use the word in different grammatical functions. At the
same time, it was thought that the part of speech used in the first sentence
the child gave would indicate what part of speech was most potent in his
perception of the word.

The test forms were printed and the responses were to be written. The
stimulus words were presented in "all caps." (This proved to be a mistake
since it was not intended that the words be interpreted in capitalized form,
as some of them were, e.g., General with the name of a general, or Camel
as the name of a brand of cigarettes.) There were no instructions as to whether
the illustrative sentences could or could not contain derivational forms
s, third person singulars, past tenses, etc.) because it was thought

that such instructions might place undue constraint on perceiving a word and generating a sentence illustrating its use. One of the examples, in fact, used LEAN in the form LEANED.

The test forms were administered to class groups with no time limits. In general, two test forms were administered to every child, and at least one test form was completed by every child. Average completion time per test was approximately 15 minutes; within 20 minutes, over 90 percent of the respondents were able to finish a given test form. It should be noted, however, that the test required the student to write only 18 sentences. He could write more sentences if he could think of "other ways" to use a given word beyond his first sentence. Actually, many pupils wrote only one sentence for the majority of the words.

The testing was introduced as part of an experimental project ("We want to find out how you and others in your grade use certain words"). Respondents were not asked to write their names on the test forms, and there was no record of the sex or age of the child. Instructions on the cover page were read aloud to the students, the sample items were discussed, and any questions raised were answered in a way that would not reveal the true purpose of the test.

Subjects

The forms were administered to a total of 243 pupils in grades 3, 6, and 9 in the Princeton (N.J.) Day School and in grade 6 in a public school in the Philadelphia school system. Table 3.2 shows the numbers of pupils taking each form at each level. The plan was to give as many forms (levels) to each pupil as he could complete within a class period. Since class periods varied in length for different schools and different grade levels, and since pupils took different amounts of time, the number of forms completed by the

Table 3.2

Numbers of Pupils Receiving Each Level and Form at Each of Two Schools,
Princeton Day School (P.D.S.) and a Philadelphia School

		A			B			C			Total		
		PDS	Phil.	Tot.	PDS	Phil.	Tot.	PDS	Phil.	Tot.	PDS	Phil.	Tot.
Level I	3*	9	-	9	9	-	9	11	-	11	29	-	29*
	6	24	2	26	25	6	31	24	6	30	73	14	87
Total		33	2	35	34	6	40	35	6	41	102	14	116
II	3	10	-	10	10	-	10	8	-	8	28	-	28
	6*	26	17	43	27	18	45	25	19	44	78	54	132*
	9	28	-	28	24	-	24	26	-	26	78	-	78
Total		64	17	81	61	18	79	59	19	78	184	54	238
III	6	24	19	43	26	16	42	28	17	45	78	52	130
	9*	29	-	29	27	-	27	26	-	26	82	-	82*
Total		53	19	72	53	16	69	54	17	71	160	52	212
IV	6	15	-	15	14	-	14	17	-	17	46	-	46
	9	27	-	27	27	-	27	28	-	28	82	-	82
Total		42	-	42	41	-	41	45	-	45	128	-	128

*Grade 3 received Level I forms first; grade 6 received Level II forms first; and grade 9 received Level III forms first. Thus, the totals (29, 132, and 82 respectively) represent the ic numbers of cases employed at each grade, summing to N = 243.

pupils varied. The test booklets were passed out in prearranged order by form (A, B, C, A, B, C,.....) so that the forms were in effect distributed to random thirds of each class group. The first level given to grade 3 was Level I, to grade 6, II, and to grade 9, III. After a pupil completed his first test booklet, he handed it in and was given a second booklet. The second form-level given to grade 3 pupils was II, to grade 6 pupils, III, and to grade 9 pupils, IV. In grade 9 at the Princeton Day School, sufficient time was available to give most of the pupils a third form-level, namely Level II. In this way it was possible to obtain data on the several levels at several different grades in order to trace developmental trends. It would have been unproductive, however, to give the higher levels to the lower grades since those levels would have been too difficult for the lower grades.

Princeton Day School is a private school whose pupils tend to be selected from upper middle and upper socioeconomic classes; in contrast, the school at which tests were given in the Philadelphia area drew pupils from lower middle and lower socioeconomic classes, and had a high percentage of black students. Unfortunately, it was possible to obtain data only from 6th grade classes in Philadelphia, with Levels I, II, and III.

Scoring of responses

All responses (both to UGF and MGF words) were scored independently by two research assistants. The relatively few discrepancies were resolved in discussion between these two and Dr. Joanna Williams, a Visiting Research Associate.

The responses were classified into the following types:

N Noun (including plurals and possessive forms)

V Verb (including third person singular and past tense forms)

A Adjective (including comparatives and superlatives in -er, -est)

Adv Adverb

* Other (prepositions, conjunctions, etc.)

PresP Present Participle (later combined with verbs)

PPA Past Participle (later combined with verbs)

G Gerund (later combined with verbs)

NS Uninterpretable (for example, a sentence like "I saw a flower blossom" in which the part of speech of <u>blossom</u> is ambiguous)

T "Illegal" transformation of the word to another part of speech, e.g., adding <u>-ly</u>, <u>-ness</u>, <u>-tion</u>, or some other derivational form

D Meaning of the word not understood by the respondent (often resulting in grammatical misuse of the word), e.g., interpreting SPARE as if it were SPEAR

I Improper use of form, even when correct meaning is implied, e.g., "I am so old that I am getting <u>elder</u>."

/N/ Definition sentence in which the word is used in citation form, thus giving no indication as to its part-of-speech use, e.g., "What does <u>penitent</u> mean?"

Some of the respondents used certain words in titles or as brand names.

GENERAL and PRINCE when used as a part of a title were scored as nouns

("General MacArthur," "Prince Philip," etc.). "CAMEL" as the name of a brand

of cigarettes was scored always as a noun, whether or not it was followed

by the word "cigarette." Other words in titles were scored according to the

way the word is used in the title; e.g., FREE in the title of the movie

"Born Free" was scored as an adjective; DIZZY as the title of a popular record

was scored as an adjective because the word appears so in the lyrics

("I'm so dizzy").

In a number of cases, it was decided to score attributive nouns as

adjectives, e.g., SCREEN in "screen door," WAX in "wax candle."

RESULTS

The success of this experiment depended in part on the extent to which the responses were complete, at least for the first sentence that was to be written. Each respondent's paper was scored for the number of sentences written as the first response to the stimulus items; Table 3.3 shows the mean and standard deviation of this score for each level, grade, and form. The maximum possible value of this score was 18. The variation in the means reflects the varying difficulties of the test-form levels in relation to the grade levels. To some slight extent it may reflect the fact that some forms were given second, with the consequence that a few students were not able to finish within the time available. It may also reflect some variation in the overall ability of the samples, the students at Princeton Day School being judged to be on the average more able than those at the Philadelphia schools where testing was done. On the whole, however, the data were relatively complete. The overall percentage of attempts was 91.1% for Level 1 data, 92.3% for Level 2, 87.6% for Level 3, and 84.7% for Level 4. There were no significant differences among forms at a given level and grade, but performance varied significantly over grades except in the case of Level 1 between grades 3 and 6.

Not all the sentences written represented "valid" uses of the stimulus words, however. In the analyses to follow, only those responses were counted as valid that used the stimulus words in legitimate ways as nouns, verbs, or adjectives.[1] The "valid" verb responses included uses as present or past participles, or gerunds. Responses coded as NS (Uninterpretable), T ("Illegal transformation" to other parts of speech by the use of derivational suffixes and the like), D ("Meaning not understood"), I ("Improper use of form"),

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[1] A few words elicited were used as adverbs, e.g., LAST. Such responses were rare, however, and for the purposes of this experiment such responses were discounted, i.e., considered as "invalid."

Table 3.3

Number of Items Attempted (with "18th Sentence" Written)

Level	Grade	N	Form A $\bar{X}$	σ	Form B $\bar{X}$	σ	Form C $\bar{X}$	σ	All Forms $\bar{X}$	σ	% Completed
1	3*	29	16.78	1.40	17.44	0.68	16.27	2.38	16.79	1.77	F=1.05 n.s.
	6	87	16.42	3.34	15.97	4.17	16.43	3.36	16.26	3.67	F= .15 n.s.
	Total	116							16.40	3.31	91.1
									$F_{1,118}= 0.55$		n.s.
2	3	28	14.20	2.18	13.30	3.23	12.87	3.95	13.50	3.19	F=.38 n.s.
	6*	132	17.60	1.06	17.76	0.60	17.57	1.01	17.64	0.91	F=.52 n.s.
	9	78	16.14	3.06	14.92	4.00	15.92	3.51	16.00	3.52	F=.03 n.s.
	Total	238							16.62	2.75	92.3
									$F_{2,35} = 38.1$		p < .001
3	6	130	14.05	5.34	15.00	4.04	14.36	4.39	14.46	4.64	F=.46 n.s.
	9*	82	17.83	0.46	17.89	0.31	17.85	0.36	17.85	0.39	F=.18 n.s.
	Total	212							15.78	4.00	87.6
									$F_{1,210} = 43.20$		p < .001
4	6	46	12.27	4.30	11.53	4.46	13.07	4.79	12.34	4.58	F=.42 n.s.
	9	82	16.93	1.36	16.78	1.50	16.96	1.21	16.89	1.36	F=.14 n.s.
	Total	128							15.26	3.67	84.7
									$F_{1,126} = 68.9$		p < .001

*First level given at these grades.

/N/ ("Definition sentence"), or O (No response) were considered "invalid."

It is of interest to consider, first, the extent to which "valid" first sentences were written for the UGF words. The validity of the experiment itself depended on how well the subjects responded to the UGF words and the extent to which they used these words in the expected parts of speech, since to the extent that they did not respond to the UGF words according to expectation, there would be no possibility of a priming effect. Table 3.4 presents the relevant data. The first three columns of this table show the percentages with which the students gave valid sentences using the stimulus words. The variation in percentages reflects not only the types of variation mentioned above (the order in which the forms were given, and the varying composition of the samples), but also the relative difficulty of the words. Most of the words were responded to in a valid way by a large majority of the students at a given grade level, but a few were of considerable difficulty. Words that were validly employed in sentences by fewer than 2/3 of the students at a given grade level were the following: DESPERATE, ORGANIZE, PERSONAL, and RENOUNCE at grade 3; and ABSURD, RENOUNCE, BURNER, and LIMITATION at grade 6. In general these findings are in agreement with the Dale ratings.

The final three columns of Table 3.3 show the percentages with which the UGF words were used in the three designated parts of speech, noun, verb. and adjective, as represented in the codings. In nearly every case, the stimulus word was used in the expected part of speech. It is probable that a few nonzero percentages that are nevertheless close to zero represent coder error. The only words for which there seem to be significant departures from the expected part-of-speech use are BURNER, coded in 9.8% of the valid instances as an adjective, and SHELVE, expected to be used as a verb but actually used in 65.1% of the valid responses at Level 4 as a noun in the form

Table 3.4

"First Sentence" Responses to Grammatically Unambiguous (UGF) Words

Level I

Percent Valid Responses

Word	Th.	Dale	Gr.3* (N=29)	Gr.6 (N=87)	Gr.9	Com- bined (N=116)	No. Valid Responses	Part of Speech (Percent)		
								Noun	Vb.	Adj.
AFRAID	1b	1	96.5	90.8	--	92.2	107	0.9	--	99.1
COUNTRY	1a	1	100.0	93.1	--	94.8	110	98.2	0.9	0.9
COUSIN	2a	1	86.2	97.7	--	94.8	110	99.1	0.9	---
ENTER	1b	1	96.5	84.7	--	87.1	101	--	100.0	--
EXPLAIN	2a	1	89.7	86.2	--	87.1	101	--	100.0	--
HONEST	2a	1	86.2	87.4	--	87.1	101	--	--	100.0
PRINCE	1b	1	93.1	79.3	--	82.7	96	100.0	--	--
REAL	1b	1	100.0	83.9	--	87.9	102	--	--	100.0
SEND	1a	1	100.0	98.8	--	99.1	115	0.9	99.1	--

Level II

Word	Th.	Dale	Gr.3 (N=28)	Gr.6* (N=132)	Gr.9 (N=78)	Com- bined (N=238)	No. Valid Responses	Part of Speech (Percent)		
								Noun	Vb.	Adj.
ARISE	3a	1	67.9	91.7	89.7	88.2	210	0.5	98.5	1.0
CAMEL	4b	1	96.4	100.0	92.3	97.1	231	97.8	--	2.2
DESPERATE	4a	5	60.7	89.4	85.9	84.9	202	--	--	100.0
LANTERN	4b	1	82.1	99.2	78.2	90.3	215	100.0	---	--
OVEN	3b	1	100.0	99.2	98.7	99.2	236	98.3	0.4	1.3
ORGANIZE	4b	3	60.7	90.9	74.4	81.9	195	1.0	99.0	--
PERSONAL	3b	3	60.7	93.2	87.2	87.4	208	1.0	--	99.0
RAINY	4a	1	96.4	99.2	87.2	95.0	226	0.9	--	99.1
SOFTEN	4b	2	60.7	94.7	80.8	86.1	205	1.0	--	99.0

*First level given at these grades.

Table 3.4 (continued)

Level III

Percent Valid Responses

Word	Th.	Dale	Gr.3	Gr.6 (N=130)	Gr.9* (N=82)	Com- bined (N=212)	No. Valid Responses	Part of Speech (Percent) Noun	Vb.	Adj.
ABSURD	6	5	--	62.3	98.8	76.4	162	--	--	100.0
COMPETITION	6	4	--	73.1	98.8	83.0	176	100.0	--	--
DISTRIBUTE	5a	7	--	90.0	97.6	92.9	197	0.5	99.5	--
LONESOME	5a	1	--	86.9	100.0	92.0	195	--	--	100.0
ORCHESTRA	5b	3	--	93.8	97.6	95.3	202	100.0	--	--
RAINFALL	6	4	--	88.5	100.0	92.9	197	99.0	1.0	--
RENOUNCE	5a	7	--	46.2	78.0	58.5	124	--	100.0	--
UNDISTURBED	6	4	--	77.7	100.0	86.3	183	--	--	100.0
WEAKEN	6	1	--	75.4	93.9	82.5	175	--	100.0	--

Level IV

Word	Th.	Dale	Gr.3	Gr.6 (N=46)	Gr.9 (N=82)	Com- bined (N=128)	No. Valid Responses	Part of Speech (Percent) Noun	Vb.	Adj.
BURNER	8	2	--	65.2	100.0	87.5	112	90.2	--	9.8
CHILLY	8	1	--	76.1	92.7	86.7	111	--	--	100.0
DURABLE	7	4	--	78.3	96.3	89.8	115	--	--	100.0
ENCIRCLE	8	3	--	71.7	96.3	87.5	112	--	100.0	--
FRAGILE	8	3	--	80.4	97.6	91.4	117	--	--	100.0
LIMITATION	8	4	--	45.6	96.3	78.1	100	98.0	--	2.0
PREDICT	7	4	--	91.3	87.8	89.1	114	0.9	99.1	--
SHELVE	7	7	--	73.9	87.8	82.8	106	65.1	34.9	--
TURPENTINE	7	3	--	89.1	98.8	95.3	122	98.4	0.8	0.8

*First level given at this grade.

SHELVES (plural). In the main, subjects responded to the UGF words in the
manner in which they were expected to respond to them; at least it may be
said that they responded to them sufficiently in accordance with expectation
to validate the design of the experiment, which assumed that they would in fact
respond to the UGF words in the anticipated parts of speech.

Table 3.5 gives data on the extent to which the subjects responded
validly to the MGF words, i.e., wrote "first sentences" using these words
in legitimate ways. One has the impression that the students had more difficulty
in responding to MGF words than to UGF words. Words validly used by fewer
than 2/3 of the students at a given grade level were as follows: SAVAGE,
MORAL, INDIVIDUAL, and MATURE, at grade 3; ANIMATE, DAZZLE, PENITENT, TARRY,
RADICAL, TINGE, EPIDEMIC, EXEMPT, and HUDDLE at grade 6; and ANIMATE, PENITENT,
and TINGE at grade 9. One hesitates to draw the conclusion, however, that
MGF words are in general more difficult to put into sentences than UGF
words of comparable frequency, because the samples of UGF and MGF words used
in this experiment were too small and too poorly matched, even in terms of
Thorndike frequency-rank indices, to support such a conclusion. It was not
within the scope of this research to pursue the interesting possibility suggested
here.

The last three columns of Table 3.5 give data on the parts of speech in
which the MGF words were used. Because this experiment was not designed to
obtain normative data they should not be regarded as necessarily giving
good estimates for normative purposes. More trustworthy data on these same
words will be presented in Chapter IV.

Is parsing behavior subject to a "priming effect"?

In order to study the main question which this experiment had been designed
;wer, all the "valid response" data were arranged so as to compare the

Table 3.5

Responses to Grammatically Ambiguous (MGF) Words

Word	Th.	Dale	MGF Vector	Level I Grade	% Valid Responses	No. Valid Responses	Part of Speech (Percent) Noun	Verb	Adj.
SAVAGE	2b	1	4 0 6	3	65.5(N=29)	19	52.6	--	47.4
				6	100.0(N=87)	87	56.3	2.3	41.4
				Σ	91.4(N=116)	106	55.7	1.9	42.5
LIVE	1a	1	0 9 1	3	93.1	27	--	92.6	7.4
				6	87.4	76	--	85.5	14.5
				Σ	88.8	103	--	87.4	12.6
BLOSSOM	2a	1	8 2 0	3	96.5	28	78.6	21.4	--
				6	90.8	79	64.6	35.4	--
				Σ	92.2	107	68.2	31.8	--
GENERAL	1a	1	1 0 9	3	93.1	27	81.5	--	18.5
				6	93.1	81	59.3	--	40.7
				Σ	93.1	108	64.8	--	35.2
FREE	1a	1	0 1 9	3	82.8	24	--	4.2	95.8
				6	85.1	74	--	--	100.0
					87.0	101	--	1.0	99.0
GLANCE	2b	1	6 4 0	3	89.7	26	42.3	57.7	--
				6	89.7	78	66.7	33.3	--
				Σ	89.7	104	60.6	39.4	--
INSTANT	2b	1	9 0 1	3	93.1	27	63.0	--	37.0
				6	77.0	67	47.8	--	52.2
				Σ	81.0	94	52.1	--	47.9
DIRECT	1b	1	0 6 4	3	72.4	21	--	71.4	28.6
				6	67.8	59	--	33.9	66.1
				Σ	68.9	80	--	43.8	56.2
JUMP	2a	1	2 8 0	3	96.5	28	3.6	96.4	--
				6	78.2	68	17.6	82.4	--
				Σ	82.8	96	13.5	86.5	--

Table 3.5 (continued)

Word	Th.	Dale	MGF Vector	Level II Grade	% Valid Responses	No. Valid Responses	Part of Speech (Percent) Noun	Verb	Adj.
ELDER	3b	1	2 0 8	3	71.4(N=28)	20	60.0	--	40.0
				6	88.6(N=132)	117	65.0	--	35.0
				9	89.7(N=78)	70	81.4	--	18.6
				Σ	87.0(N=238)	207	70.0	--	30.0
SPARE	2a	4	0 8 2	3	96.4	27	18.5	22.2	59.2
				6	99.2	131	0.8	41.2	58.0
				9	100.0	78	3.8	48.7	47.4
				Σ	99.2	236	3.8	41.5	54.6
SCREEN	4a	1	9 1 0	3	96.4	27	66.7	--	33.3
				6	100.0	132	59.1	8.3	32.6
				9	97.4	76	59.2	13.2	27.6
				Σ	98.7	235	60.0	8.9	31.1
MORAL	3a	4	1 0 9	3	28.6	8	87.5	--	12.5
				6	84.1	111	82.0	--	18.0
				9	80.8	63	65.1	--	34.9
				Σ	76.5	182	76.4	--	23.6
LAST	1a	1	1 2 7	3	89.3	25	--	4.0	96.0
				6	100.0	132	0.8	9.1	90.2
				9	91.0	71	4.2	12.7	83.1
				Σ	95.8	228	1.8	9.6	88.6
WAX	3a	1	4 6 0	3	89.3	25	40.0	44.0	16.0
				6	98.5	130	51.5	32.3	16.2
				9	82.0	64	54.7	37.5	7.8
				Σ	92.0	219	51.1	35.2	13.7
INDIVIDUAL	3a	3	7 0 3	3	21.4	6	50.0	--	50.0
				6	88.6	117	65.0	--	35.0
				9	69.2	54	75.9	--	24.1
				Σ	74.3	177	67.8	--	32.2

Table 3.5, Level II (continued)

Word	Th.	Dale	MGF Vector	Grade	% Valid Responses	No. Valid Responses	Part of Speech (Percent)		
							Noun	Verb	Adj.
MATURE	4a	4	0 5 5	3	21.4	6	--	16.7	83.3
				6	89.4	118	--	6.8	93.2
				9	69.2	54	--	14.8	85.2
				Σ	74.7	178	--	9.6	90.4
DIP	3a	1	2 8 0	3	78.6	22	27.3	72.7	--
				6	98.5	130	63.8	36.2	--
				9	69.2	54	66.7	31.5	1.9
				Σ	86.5	206	60.7	38.8	0.5

Level III

Word	Th.	Dale	MGF Vector	Grade	% Valid Responses	No. Valid Responses	Part of Speech (Percent)		
							Noun	Verb	Adj.
OFFICIAL	3a	3	5 0 5	6	93.1(N=130)	121	31.4	--	68.6
				9	97.6(N=82)	80	55.0	--	45.0
				Σ	94.8(N=212)	201	40.8	--	59.2
ANIMATE	6	6	0 9 1	6	37.7	49	--	93.9	6.1
				9	54.9	45	--	57.8	42.2
				Σ	44.3	94	--	76.6	23.4
CHART	5b	1	9 1 0	6	90.8	118	88.1	11.9	--
				9	97.6	80	73.8	25.0	1.2
				Σ	93.4	198	82.3	17.1	0.5
PRIMARY	5b	5	1 0 9	6	71.5	93	15.1	--	84.9
				9	100.0	82	17.1	--	82.9
				Σ	82.5	175	16.0	--	84.0
DIZZY	6	2	0 1 9	6	86.2	112	--	--	100.0
				9	100.0	82	--	--	100.0
				Σ	91.5	194	--	--	100.0
CHISEL	6	2	4 6 0	6	72.3	94	83.0	17.0	--
				9	100.0	82	69.5	30.5	--
				Σ	83.0	176	76.7	23.3	--

Table 3.5, Level III (continued)

Word	Th.	Dale	MGF Vector	Grade	% Valid Responses	No. Valid Responses	Part of Speech (Percent)		
							Noun	Verb	Adj.
CARDINAL	6	3	7 0 3	6	79.2	103	83.5	--	16.5
				9	100.0	82	70.7	--	29.3
				Σ	87.2	185	77.8	--	22.2
LIMP	5b	1	0 4 6	6	78.4	102	14.7	51.0	34.3
				9	96.3	79	26.6	32.9	40.5
				Σ	85.3	181	19.9	43.1	37.0
DAZZLE	5a	3	1 9 0	6	61.5	80	11.2	83.8	5.0
				9	82.9	68	13.2	85.3	1.5
				Σ	69.8	148	12.2	84.5	3.4

Level IV

Word	Th.	Dale	MGF Vector	Grade	% Valid Responses	No. Valid Responses	Part of Speech (Percent)		
							Noun	Verb	Adj.
PENITENT	7	6	4 0 6	6	26.1(N=46)	12	8.3	--	91.7
				9	41.5(N=82)	34	8.8	--	91.2
				Σ	35.9(N=128)	46	8.7	--	91.3
TARRY	5a	4	0 9 1	6	65.-	30	--	83.3	16.7
				9	81.7	67	3.0	88.1	9.0
				Σ	75.8	97	2.1	86.6	11.3
BADGER	7	4	9 1 0	6	80.4	37	81.1	18.9	--
				9	86.6	71	64.8	35.2	--
				Σ	84.3	108	70.4	29.6	--
RADICAL	7	5	-1 0 9	6	45.6	21	14.3	--	85.7
				9	100.0	82	57.3	--	42.7
				Σ	80.5	103	48.5	--	51.5
TIDY	10	3	0 1 9	6	82.6	38	--	21.1	78.9
				9	98.8	81	--	18.5	81.5
				Σ	93.0	119	--	19.3	80.7
TINGE	8	4	6 4 0	6	17.4	8	87.5	--	12.5
				9	61.0	50	92.0	8.0	--
				Σ	45.3	58	91.4	6.9	1.7

Table 3.5, Level IV (continued)

Word	Th.	Dale	MGF Vector	Grade	% Valid Responses	No. Valid Responses	Part of Speech (Percent)		
							Noun	Verb	Adj.
EPIDEMIC	8	4	8 0 2	6	45.6	21	95.2	--	4.8
				9	95.1	78	97.4	--	2.6
				Σ	77.3	99	97.0	--	3.0
EXEMPT	6	5	0 5 5	6	4.3	2	--	(50.0)	(50.0)
				9	67.1	55	--	20.0	80.0
				Σ	44.5	57	--	21.1	78.9
HUDDLE	7	3	1 9 0	6	63.0	29	55.2	44.8	--
				9	100.0	82	65.9	34.1	--
				Σ	86.7	111	63.1	36.9	--

probabilities of giving a certain part of speech for a given MGF word as a function of the part of speech in which the preceding UGF word had been classified. (Here we have reference to the classification that had been assigned to the UGF word prior to the experiment, not to the classification assigned by the subject. As noted above, however, nearly all UGF words were actually used in the parts of speech in which they had been previously classified.) Data were pooled over schools and grades. This resulted in a 3 x 3 contingency table for each MGF word, for (part of speech of preceding UGF word) x (part of speech in which the MGF word was used in the first sentence written). It was then possible to apply a chi-square test to the contingency table. In many cases, when frequencies in one column summed to zero or a small number, it was necessary to collapse the contingency table to a 3 x 2 table; in a few cases, no test was possible because all or nearly all frequencies occurred in a single column.

For example, at Level 2, the MGF stimulus WAX had been preceded by the UGF (N) stimulus CAMEL in Form B, the UGF (V) stimulus SOFTEN in Form A, and the UGF (A) stimulus PERSONAL in Form C. With valid response data from grades 3, 6, and 9 pooled, the resulting contingency table was as follows:

Preceding item	Form	Part of speech written for WAX			Total
		N	V	A	
N	B	37	26	11	74
V	A	41	24	9	74
A	C	34	27	10	71
		112	77	30	219

When columns V and A in the above table were combined, computation yielded a chi-squared value of 0.88, d.f. = 2, p > .70.

Of the 28 (out of a possible 36) tests that were made in this way,
only one test yielded a chi-squared value with $p < .05$; this was for the word
DAZZLE, with $x^2 = 7.99$, d.f. $= 2$, $p < .025$. Since one would expect about one
such result out of 28 by chance, it is unlikely that any real significance
can be attached to it. Examination of the data for DAZZLE suggests that if
anything, there was a negative priming effect; that is to say, an adjective
was less likely to be written when the item was preceded by an adjective.

Examination of the data grade by grade revealed no case in which there
was likely to be some sort of significant interaction of a priming effect
with grade.

The conclusion for this pilot experiment was clear; at least under
the conditions of the experiment, where each MGF stimulus was preceded by one
UGF stimulus, no significant priming effect was detectable. It appears that
when Ss are presented with a list of words in isolation and are asked to make
up sentences illustrating each word, they perceive and respond to each word
as a separate entity, and there are no significant intralist influences on these
perceptions.

It is possible, of course, that a priming effect might have been more
prominent if Ss had been asked to make up only ore sentence per word. In
this experiment they were asked to make up more than one sentence if they
could think of different ways to use the word, and many Ss did write
more than one sentence for a given word. Table 3.6 reports data bearing on
the extent to which Ss tended to write more than one sentence for a given
stimulus word, depending on whether it was a UGF or MGF word, and the extent
to which there was a change in part of speech when they wrote the second
sentence for an MGF stimulus word. The data in Table 3.6 are pooled over
forms since there was no evidence of any significant differences among
forms in this respect.

From Table 3.6, it appears that (1) as grade increases, there is an increasing tendency to write a second or third sentence; (2) particularly at the higher grades, more sentences are written in response to MGF stimuli than to UGF stimuli; and (3) as grade increases, there is an increasing tendency to change the part of speech when the second sentence is written. However, these results are probably to some extent confounded with a number of extraneous variables, such as the nature of the samples, whether the form was the first one completed, the polysemy vs. polysyntagmy of the words, etc. Analysis of some of these matters will be more profitable in connection with the experiment to be reported in the next chapter, where the relevant data are more ample.

Table 3.6

Data on Second or Third Sentences Written to the Stimuli

(Data pooled over forms)

Level	Grade	N	No. of UGF items for which a 2nd or 3rd sentence was written		No. of MGF items for which a 2nd or 3rd sentence was written		No. of MGF items in which the 2nd sentence changed the part of speech	
			$\bar{X}$	σ	$\bar{X}$	σ	$\bar{X}$	σ
1	3	29	3.14	3.32	3.59	3.02	1.07	1.05
	6	87	1.41	1.95	2.42	2.45	1.49	1.66
	Total	116	$F_{1,114}=11.54.\ p<.001$		$F_{1,114}=4.24.\ p<.05$		$F_{1,114}=1.65.\ \text{n.s.}$	
2	3	28	1.18	1.69	1.46	1.88	0.46	0.87
	6	132	3.94	2.80	5.48	2.11	2.82	1.61
	9	78	3.32	2.47	6.40	2.24	4.04	1.91
	Total	238	$F_{2,235}=13.07.\ p<.001$		$F_{2,235}=55.\ p<.001$		$F_{2,235}=48.\ p<.001$	
3	6	130	1.38	1.85	2.61	2.31	1.07	1.28
	9	82	4.07	2.66	7.07	1.78	4.22	1.65
	Total	212	$F_{1,210}=74.\ p<.001$		$F_{1,210}=221.\ p<.001$		$F_{1,210}=240.\ p<.001$	
4	6	46	0.42	0.68	0.39	0.88	0.28	0.68
	9	82	4.06	2.61	3.94	2.10	2.70	1.91
	Total	128	$F_{1,126}=84.\ p<.001$		$F_{1,126}=117.\ p<.001$		$F_{1,126}=67.\ p<.001$	

Chapter IV

Grammatical Perceptions of 240 MGF Words at Three Grade Levels:

A Normative Study

Introduction

Since it had been determined, in the pilot experiment reported in Chapter III,

that there were apparently no significant sequential effects in the grammatical

perceptions of words presented in isolation, it became possible to proceed

to the study of a much larger pool of MGF words. Data on a large number of

MGF words were required for use in designing the main experiment (to be reported

in Chapter V) on children's comprehension of MGF words in various contexts.

As in the previous experiment, the data that were of most interest were

the empirical probabilities with which each MGF word was used in the several

parts of speech when the children were presented with the word in isolation

and asked to use it in one or more sentences. When a word was used with a

high probability in a given part of speech in the first sentence written by

a respondent, it was assumed that the word was well known in that part of

speech by children at a given grade level. When a word was used with a low

probability in a given part of speech, it was assumed that the word was less

well known in that part of speech. However, attention was directed also to

the probability with which a word was used in a different part of speech in

a second sentence. If the probability of changing grammatical function in

a second sentence should prove to be relatively high, it could be assumed

that the word was relatively well known in the respective parts of speech.

These data would be useful, it was thought, in identifying words whose relatively

unusual grammatical functions were unlikely to be known by children at the

several grade levels involved in this study.

A supplementary question of interest here was that of how successful the respondents were in using the MGF words in sentences. The proportions of respondents who could use the words successfully in sentences represented data that would index the relative difficulties of the words. These indices could be compared with other information that might bear on word difficulty, such as the Thorndike frequency-rank indices and the Dale ratings.

It was also of interest to note developmental changes, if any, in respondents' success in using the MGF words in sentences, in the probabilities with which they used them in the several possible parts of speech in the first sentence written for each word, and in the probabilities with which they used the words in changed grammatical functions in a second sentence.

Finally, it was of interest to compare the empirical part-of-speech proportions with the "MGF vectors" that had been assigned to the words by methods described in Chapter II.

The pilot experiment reported in the previous chapter yielded limited data on 36 MGF words. The present chapter reports further data on those words as well as data on 204 additional MGF words. Since this study was not concerned with children's knowledge of UGF words, no further data were obtained for such words.

Method

In order to obtain data on a large number of MGF words and at the same time limit the words presented to each respondent to a reasonable number, nine different test forms were prepared, each with 26 or 27 words. These comprised three forms at each of three levels of difficulty as determined by Thorndike frequency-rank indices. (The data on Dale ratings of words had not been developed at this stage of the research.) The forms included the 36 words previously

studied, plus 204 additional words that were selected from the MGF compilations reported in Chapter II as follows:

Level 1   36 words from categories 1a and 1b (Thorndike ratings)
                37 words from categories 2a and 2b
                72 words, 24 in each of three forms (I-A, I-B, I-C)

Level 2   41 words from categories 3a and 3b
                31 words from categories 4a and 4b
                72 words, 24 in each of three forms (II-A, II-B, II-C)

Level 3   23 words from categories 5a and 5b
                19 words from category 6
                18 words from category 7
                60 words, 20 in each of three forms (III-A, III-B, III-C)

The 204 additional MGF words were distributed randomly among the three forms at each level; the distribution that resulted was as follows, in terms of types of MGF words according to the MGF vectors:

	Level 1	Level 2	Level 3	Total
Type NV	42	60	49	151
Type NA	16	6	8	30
Type VA	5	0	2	7
Type NVA	8	6	1	15
Type N,V,A,Other	1	0	0	1
Total	72	72	60	204

In order to insure that reliable additional data would be obtained on the 36 MGF words used in the previous experiment, appropriate subsets of these were placed early in each form so that they would have a higher likelihood of being responded to if the student did not complete his form in the time allowed. Thus, the first three words of Level 1 and Level 2 forms were MGF words used in Levels I and II of the previous experiment, respectively, and the first six words of Level 3 were MGF words from

rels III and IV of the previous experiment. Beyond these words, the

additional MGF words were randomly ordered within forms.

As in the previous experiment, each test form had a cover page giving instructions; this cover page was identical for all nine forms. (A sample form is shown in Appendix C.) The instructions read as follows:

"We want to find out how you and others in your grade use certain words.

"For each word write two short, complete sentences showing that you know how to use that word. Write the first sentence that you think of. Then, write another sentence using the word in a different way."

These instructions were followed by four examples, three of them filled out and the fourth for the child to try for himself. All sample words were MGF words of high frequency (right, paint, clear, and rest), and the samples illustrated different grammatical functions of these words. It was hoped in this way that the subjects would receive an implicit set to write words in different grammatical functions, even though no specific mention of grammatical function was made. The reason for asking each subject to write two sentences was that it was desired to investigate the extent to which different grammatical functions would be used under these instructions. At the same time, it was assumed, as before, that the first sentence written would illustrate the grammatical function in which the word was perceived with highest potency.

The test forms were printed and the responses were to be written. From experience with the earlier experiment, where the words were printed in "all caps" and were often interpreted by the subjects as proper nouns or adjectives, all words were printed in lower case.

As in the previous experiment, there were no instructions as to whether sentences to be written by the subject could contain derivational forms

since lack of such instructions had not caused difficulty in the previous experiment. Nevertheless, the samples on the cover page used the words only in their entry forms.

Because each form asked the student to write as many as 54 sentences (i.e., two sentences for each of 27 words in the forms at Levels 1 and 2 and for each of 26 words in the forms at Level 3), it was expected that completion of each form would take most of a class period.

Subjects

It was planned to have each form of each level completed by approximately 100 students of a given grade in order to obtain reasonably reliable data on the proportions with which different parts of speech were used. Originally it was hoped to obtain data for Level 1 at grades 3 and 6 and for Levels 2 and 3 at both grades 6 and 9. The difficulty of obtaining the required numbers of subjects and the costs involved made it necessary to abandon some parts of this plan. It was decided to concentrate on obtaining data for Level 1 on grade 3, Level 2 at grades 6 and 9, and Level 3 for grade 9 only. (A few cases were obtained for Level 1 at grade 6, but not enough to justify analysis.)

An effort was made to obtain cooperating schools from communities of different types (middle-class suburban, small town, and inner-city) and to make the representation as comparable as possible from grade to grade. It is a matter of judgment as to what degree this effort was successful. Table 4.1 shows the number of cases obtained from each of four communities, by level and grade:

Table 4.1

Community	Level 1		Level 2		Level 3	Total
	Gr. 3	Gr. 6	Gr. 6	Gr. 9	Gr. 9	
Edison, N. J.	40	--	61	--	62	163
Ewing, N. J.	75	55	84	--	--	214
Atlantic City, N. J.	123	--	168	305	339	935
Philadelphia, Pa.	64	--	92	--	27	183
	302	55	405	305	428	1495

Edison, N. J. is a community that includes a wide range of neighborhoods,
with concentration, however, on lower middle-class and upper lower-class
white- and blue-collar workers; the schools at which testing was conducted
included few blacks. Ewing, N. J. is primarily a middle-class suburban community.
Atlantic City, N. J. is essentially a medium-sized city that includes both
middle- and lower-class neighborhoods, with a considerable proportion of
black students in the schools where testing was done. Its one high school
contributed all the grade 9 cases at Level 2 and a majority of the cases
for Level 3, grade 9. The testing done in Philadelphia was at two schools,
one (grade 3 and 6 cases) in an urban redevelopment project, and the other
(grade 9 cases) in an inner-city ghetto. In the aggregate, it is believed
that the data over the various levels and grades come from reasonably
comparable and representative samples, with the exception of the data
for Level 1, grade 6, which were in any case too meager to justify being
analyzed.

Since the forms were distributed to random thirds of each class group
(by prearrangement of the forms in the order A, B, C, A, B, C, ...), approximately

equal numbers took each form at each level and grad. The method of administration was similar to that described for the previous pilot experiment.

Scoring of data

Every position on each respondent's test form was inspected by a research assistant in order to classify the response according to the following key:

0 No response (i.e., nothing written at all).

1 Stimulus word used as a NOUN (including possessives and plural forms).

2 Stimulus word used as a VERB (including forms in -s, -ed, and -ing, except when forms in -ing or -ed would properly be classified as nouns or adjectives, e.g., BUILDING, in which case the response was coded T; see below).

3 Stimulus word used as an ADJECTIVE (including comparative and superlative forms).

4 Stimulus word used as an ADVERB.

5 Stimulus word used in some OTHER part of speech.

A Response not codable because of grammatical AMBIGUITY.

C Stimulus word is used as a proper noun or adjective, i.e., CAPITALIZED (However, certain capitalized words were classified in the appropriate part of speech when they occurred in phrasal titles, e.g., FREE was classified as an adjective in the movie title "Born Free.")

I Word used in an IMPLIED TRANSFORMATION to another word or part of speech, e.g., "Is this individual wrapped cheese?" (for individually or "your class used the associate law of addition." (for associative).

Q Word used in citation or QUOTATION form, i.e., without being used in any part of speech, as in "What does 'epidemic' mean?"

R Stimulus word not recognized in its proper sense or meaning, e.g., FILL mistaken for FEEL.

T   Illegal transformation of word to another part of speech, e.g.,

BUILD transformed to BUILDING and used as a noun.

U   Uninterpretable because of illegibility or other reasons not

included above.

Informal reliability checks showed that agreement was high, particularly

when the response was clearly classifiable in the normal part-of-speech categories

(noun, verb, adjective, adverb, other). Because of the very large volume of

data (which could have totaled about 80,000 responses if all students wrote

two sentences for each stimulus word) it was not considered worthwhile to

institute reliability checks beyond those used in training the research

assistants. In any case, the two research assistants who did the scoring

frequently consulted each other to decide the coding of difficult cases.

All data were keypunched and most of the analyses were done by a high-

speed computer (IBM 360/65) through the use of specially written programs.

RESULTS

The major purpose of this experiment was to determine, by an objective

method, the relative frequency with which a large number of words, 240 in

all, were perceived in different parts of speech when these words were

presented in isolation. Since a large number of respondents wrote two sentences

for each word, and since in some cases data were obtained for a given word

from two grade levels, the data were voluminous. Therefore, this report will

restrict itself, in the main, to considering the data pooled over schools for

a given grade level. No attempt is made to analyze the data for different

schools within a grade level.

Furthermore, the data obtained for 55 cases for Level 1, grade 6 will be ignored because of the small frequencies available for each of the three forms.

Incidence of valid, invalid, and no responses for "first sentence" responses

If all 1440 subjects in the designated groups had written at least one sentence for each word, there would have been 38,452 responses in the "first sentence" position to score. Actually, over the total sample, only 26,716 responses were written in the first sentence position, or 69.5% of possible. The percentages for the different levels and grades were as follows: Level 1, grade 3, 48.5%; Level 2, grade 6, 76.8%, grade 9, 71.9%; Level 3, grade 9, 75.9%. However, a considerable number of the responses were not considered valid for the purposes of this experiment. As shown in Table 4.2, there were small percentages of responses that were coded as A (ambiguous), C (capitalized), I (implicit transformations), Q (quotation forms), T (illegal transformations), and U (uninterpretable). Significant percentages of responses, ranging from 1.6 to 8.4 depending on the level, form, and grade, were coded as R (not recognized in the proper sense).

Only responses scored as representing clear and legitimate u   the words as nouns, verbs, adjectives, or other parts of speech were considered valid. The percentages of "valid" responses at the different levels and grades were as follows: Level 1, grade 3, 39.1%; Level 2, grade 6, 66.2%, grade 9, 67.6%; Level 3, grade 9, 70.7%. The variation in these percentages reflects (1) the varying difficulties of the words included at the several levels, (2) the average ability levels at the several grades, and (3) possibly, but probably to a limited extent, lack of comparability of the samples with respect to ability or motivational levels. To the extent possible, the subjects

Table 4.2

Percentages of Valid, Invalid, and No Response,
by Level, Form, and Grades

			Total	No	Percentages of all responses (1st sentence)							
Level	Form	Grade	N	Response	A	C	I	Q	R	T	U	Valid
1	A	3	102	48.8	0.6	1.3	0.0	0.1	3.8	0.5	1.2	43.5
	B	3	102	53.1	0.5	0.6	0.2	0.8	7.6	0.7	2.0	34.5
	C	3	98	52.6	6.5	0.7	0.3	0.6	2.8	0.4	2.7	39.3
	All	3	302	51.5	0.5	0.9	0.2	0.5	4.7	0.5	2.0	39.1
2	A	6	126	20.9	0.2	0.4	0.1	1.3	5.5	0.8	0.9	69.8
		9	102	29.2	0.3	0.2	0.2	0.1	1.7	0.7	0.2	67.4
	B	6	141	22.9	0.3	0.8	0.2	0.8	7.2	0.4	0.4	56.9
		9	106	21.8	0.2	0.9	0.1	0.2	2.6	0.7	0.2	73.2
	C	6	138	25.5	0.4	0.5	0.4	1.2	8.4	0.7	0.6	62.3
		9	97	33.9	0.1	0.1	0.1	0.1	3.2	0.9	0.1	61.6
	All	6	405	23.2	0.3	0.6	0.3	1.1	7.1	0.6	0.6	66.2
		9	305	28.1	0.2	0.4	0.1	0.1	2.5	0.8	0.2	67.6
3	A	9	143	18.0	0.2	2.2	0.0	0.1	1.6	1.0	0.1	76.7
	B	9	147	31.2	0.2	0.7	0.1	0.2	3.3	0.4	0.3	63.6
	C	9	138	22.9	0.4	0.7	0.3	0.6	2.2	0.8	0.1	72.0
	All	9	428	24.1	0.3	1.2	0.1	0.3	2.4	0.8	0.2	70.7

Total No. of Responses Scored (1st sentence only)
Level 1 Grade 3: 3953 (48.5% of possible)
2 Grade 6: 8402 (76.8% of possible)
2 Grade 9: 5917 (71.9% of possible)
3 Grade 9: 8444 (75.9% of possible)
26716 (69.5% of possible)

had been given enough time to complete their forms, but the results suggest

that many did not put enough effort into completing the forms properly.   It

is somewhat surprising that the results in Table 4.2 do not show a greater

contrast than one might expect between the performances of grades 6 and 9

at Level 2, or indeed between Levels 2 and 3 at grade 9.   No explanation

for this fact suggests itself immediately.

It is apparent that the words included at Level 1 for grade 3 tended

to be somewhat more difficult for the children to use in sentences than was

expected.   It is probable that overall, the grade 3 samples used in this

experiment were of a lower average ability level than the rather select

samples used at grade 3 in the previous experiment.   The words included for

Levels 2 and 3, on the other hand, were, apparently, approximately of the

difficulty expected, with valid responses averaging around 65 to 70 percent.

We may proceed immediately to a consideration of the results for the

individual words, which are tabulated in Table 4.3.   Table 4.3, in fact,

presents a summary of most of the relevant data of the experiment, along with

information on the level, form, and item number of the word, the word number

as assigned in Appendix A, the word, the sample from which the word was

drawn (S), the Dale rating (D), the Thorndike frequency-rank index (TH),

the grammatical code (GC), the semantic code (SM), and the MCF vector.

Various aspects of these data will be discussed in remaining sections of

this chapter.

Here let us consider the wide variation among the words with respect to

the percentages of valid responses in the first sentence position.   These

percentages may be taken, with some qualifications, as indices of the difficulty

that the respondents had in properly using each word in a sentence.   (The

major qualification is that it could be argued that some of the "nonvalid"

responses were in fact "proper" uses of the word, particularly those coded as

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TABLE 4.3   DATA FROM NORMATIVE STUDY

LEVEL 1, GRADE 3

LEVEL, FORM	WORD #	WORD #	WORD	S D	TH	G S C N	MGF N V	VECT. A	TOT. N	% VALID	BASE	P(N)	P(V)	P(A)	P(OT)	P(2) 2ND	2ND R)	PIGRAM. CHANGE)
1A 26	26	AGE		3 1	16 4	1 4	9 1	0	102	0.245	25	1.000	*0.0	*0.0	*0.0	0.500	0.520	0.0
1C 21	10A	BABY		3 1	18 7	1 1	8 1	1	98	0.622	61	0.721	0.0	0.279	*0.0	0.754	0.705	0.279
1C 11	112	BALANCE		1 1	2B 4	3 3	5 5	0	98	0.337	33	0.485	0.515	*0.0	*0.0	0.667	0.637	0.381
1C 3	150	BLOSSOM		1 1	2A 4	1 1	8 2	0	98	0.480	47	0.787	0.213	0.0	*0.0	0.650	0.596	0.107
1C 8	167	BROKE		2 2	25 6	1 1	9 0	1	98	0.735	72	*0.0	0.839	*0.111	*0.0	0.875	0.806	0.276
1A 17	194	CAMP		1 1	2A 7	1 1	7 2	-1	102	0.559	57	0.702	0.298	*0.0	*0.0	0.754	0.631	0.194
1B 24	205	CHANCE		3 1	1B 7	1 1	8 1	0	102	0.216	22	0.955	0.045	*0.0	*0.0	0.591	0.500	0.182
1C 26	235	COMMAND		1 2	1B 4	1 1	7 6	0	98	0.092	9	0.333	0.567	0.0	0.0	0.556	0.555	0.400
1B 17	261	COPY		1 1	2A 4	1 1	8 2	0	102	0.510	52	0.135	0.845	*0.0	*0.0	0.615	0.480	0.280
1A 13	275	CROWD		1 1	1B 4	1 1	7 3	0	102	0.431	44	0.864	0.136	*0.0	*0.0	0.642	0.636	0.286
1C 17	292	DECK		1 1	2B 4	1 1	8 2	0	98	0.510	50	0.900	*0.0	*0.0	0.0	0.680	0.580	0.138
1C 1	316	DIRECT		2 1	18 6	3 3	9 4	4	98	0.469	46	*0.0	0.739	0.261	*0.0	0.761	0.652	0.333
1A 6	321	DISEASE		1 1	2B 4	1 1	9 0	0	102	0.167	17	0.941	0.059	*0.0	*0.0	0.765	0.706	0.083
1B 13	326	DIVIDE		1 1	1B 4	1 1	-1 9	0	102	0.402	41	0.024	0.976	*0.0	0.0	0.634	0.610	0.0
1A 20	342	DUE		2 1	2A 5	1 4	2 0	8	102	0.127	13	0.077	0.0	0.923	*0.0	0.692	0.230	0.0
1C 16	351	EFFECT		3 4	2A 4	1 1	8 2	0	102	0.059	6	1.000	0.0	0.0	0.0	0.657	0.500	0.0
1C 13	359	END		3 1	1A 4	1 1	9 1	0	98	0.796	78	0.949	0.051	*0.0	0.0	0.731	0.705	0.109
1C 7	402	FEVER		1 1	2B 4	1 1	-1 9	0	98	0.490	48	1.000	*0.0	*0.0	*0.0	0.667	0.604	0.0
1A 17	405	FILL		3 1	1A 4	1 1	9 0	0	102	0.520	53	0.038	0.962	*0.0	*0.0	0.679	0.585	0.032
1B 15	435	FORMER		1 4	1B 5	1 1	9 0	0	102	0.098	10	0.600	0.400	*0.0	0.0	0.500	0.300	0.333
1A 7	437	FREE		1 1	2B 6	1 3	8 1	9	102	0.833	85	*0.0	*0.0	0.941	*0.0	0.918	0.871	0.081
1A 15	445	GAME		2 1	1B 5	1 3	9 1	1	102	0.833	85	1.000	*0.0	*0.0	*0.0	0.753	0.706	0.0
1C 17	447	GENERAL		2 1	1A 5	4 4	1 7	9	90	0.490	47	0.702	*0.0	0.298	*0.0	0.872	0.787	0.703
1C 20	452	GIANT		2 1	2A 5	4 3	5 1	3	102	0.373	38	0.842	0.158	*0.0	*0.0	0.579	0.500	0.500
1B 2	456	GLANCE		1 1	2B 4	4 3	6 1	0	102	0.245	27	0.259	0.741	*0.0	*0.0	0.407	0.370	0.200
1A 10	461	LETTER		2 1	1A 8	1 1	8 1	5	102	0.755	77	*0.0	0.913	0.305	0.182	0.740	0.727	0.250
1C 20	468	GRAVE		2 1	2A 5	4 4	8 1	2	98	0.204	20	0.850	*0.0	0.050	*0.0	0.400	0.250	0.200
1A 18	469	GREEN		1 1	1A 7	1 1	2 1	0	102	0.667	68	0.162	0.0	0.838	*0.0	0.750	0.721	0.265
1B 5	499	HIRE		1 1	2B 4	1 1	1 9	0	102	0.294	30	0.033	0.967	*0.0	*0.0	0.767	0.467	0.0
1C 15	514	HUNDRED		3 1	1A 5	1 1	5 0	5	98	0.561	55	0.236	0.0	0.744	*0.0	0.655	0.601	0.182
1B 1	548	INSTANT		1 2	2B 5	1 1	9 0	0	102	0.333	33	0.545	0.0	0.454	*0.0	0.924	0.736	0.520
1B 16	553	INTEREST		3 3	1B 4	3 1	9 4	0	102	0.245	26	0.170	0.630	*0.0	*0.0	0.630	0.556	0.200
1A 24	557	ISSUE		2 1	2A 4	2 2	1 0	0	102	0.098	10	0.600	0.400	*0.0	0.0	0.400	0.300	0.0
1A 5	566	JUMP		1 1	2A 4	1 2	8 0	0	102	0.863	89	*0.0	1.000	*0.0	*0.0	0.875	0.818	0.056
1A 5	570	KICK		2 1	2B 4	1 1	9 0	0	102	0.843	86	0.058	0.942	*0.0	*0.0	0.637	0.768	0.091
1A 14	597	LEAN		3 1	2A 7	2 1	7 2	2	102	0.157	15	0.033	0.875	0.063	*0.0	0.688	0.625	0.100
1C	601	LEFT		2 1	1A 6	4 1	8 1	0	98	0.827	81	0.096	0.531	0.383	0.0	0.827	0.777	0.492
1A 3	615	LIVE		1 1	1A 6	1 1	0 1	1	102	0.853	88	*0.0	0.977	0.023	*0.0	0.773	0.739	0.015
1A 19	623	LINE		2 1	1A 4	3 3	9 1	0	102	0.657	67	0.940	0.060	*0.0	*0.0	0.716	0.657	0.023
1C 6	658	MANUFACTURE		1 1	2B 4	4 1	6 4	0	98	0.082	8	0.125	0.875	0.0	0.0	0.750	0.775	0.0
1A 25	659	MAP		1 1	2A 4	4 1	9 1	0	102	0.284	29	1.000	*0.0	*0.0	*0.0	0.724	0.680	0.0

*Asterisks are explained on page 61.

TABLE 4.3   DATA FROM NORMATIVE STUDY (CONTINUED)

LEVEL 1, GRADE 3

LEVEL.1 FORM #	WORD #	WORD	S N	O TH C	G C	S M	MGF N	V	A	N VALID	TOT. % VALID	P(N)	P(V)	P(A)	P(OT)	P(2)	2ND R)	PIGRAM CHANGE
1C 16	689	MILL	1 1	18	4	1	9	1	0	98	0.367	1.000	*0.0	*0.0	*0.0	0.560	0.444	0.125
1C 19	494	MINUTE	2 1	18	5	4	9	0	1	98	0.408	1.000	*0.0	*0.0	*0.0	0.675	0.625	0.0
1A 22	695	MISS	1 1	14	4	3	1	0	0	102	0.706	0.234	0.762	*0.0	*0.0	0.810	0.428	0.222
1A 23	771	NAME	3 1	14	5	1	1	2	0	57	0.559	0.965	*0.035	*0.0	*0.0	0.561	0.526	0.167
1C 12	726	NATIONAL	3 3	28	5	1	1	0	9	98	0.235	*0.0	*0.0	1.000	*0.0	0.552	0.565	0.0
1A 25	738	NINE	1 1	18	5	1	5	0	9	102	0.559	*0.053	*0.0	0.947	*0.0	0.737	0.719	0.171
1A 25	740	NOISE	1 1	2A	5	2	9	-1	0	102	0.265	1.000	*0.0	*0.0	*0.0	0.444	0.407	0.0
1B 21	751	OBJECT	2 2	18	4	4	7	3	0	102	0.265	0.852	0.148	*0.0	*0.0	0.555	0.519	0.214
1C 25	782	PACK	3 1	2A	4	3	4	6	0	98	0.378	0.351	0.649	*0.0	*0.0	0.568	0.514	0.421
1C 23	793	PAGE	1 1	18	4	2	7	-1	0	93	0.435	1.000	*0.0	*0.0	*0.0	0.744	0.674	0.103
1A 12	797	PATIENT	2 3	28	5	3	7	1	0	102	0.127	0.692	*0.0	0.308	*0.0	0.846	0.692	1.000
1A 22	818	PICK	3 1	18	4	3	1	0	0	102	0.451	-0.043	0.957	*0.0	*0.0	0.717	0.717	0.152
1B 11	825	PLAIN	1 3	1A	5	4	3	1	0	97	0.216	0.277	*0.0	0.773	*0.0	0.955	0.545	0.167
1A 4	864	PRESERVE	1 3	2A	4	1	9	0	0	102	0.098	0.300	0.700	0.0	0.0	0.900	0.600	0.647
1A 12	876	PRIVATE	2 3	2A	5	4	1	0	0	102	0.284	*0.069	*0.0	0.931	*0.0	0.690	0.586	0.176
1C 24	898	PROMPT	1 3	28	7	3	1	4	0	98	0.010	0.0	0.0	1.000	0.0	0.0	0.761	9.999
1A 4	897	PUBLIC	1 1	2A	5	1	3	0	7	102	0.451	*0.087	*0.0	0.913	*0.0	0.304	0.761	0.171
1B 9	931	RENDER	1 6	28	4	1	4	0	0	102	0.039	0.0	1.000	0.0	0.0	0.500	0.250	0.0
1B 4	957	ROYAL	1 1	2A	5	1	2	0	0	102	0.284	*0.0	*0.0	1.000	*0.0	0.793	0.621	0.056
1B 22	958	RUN	1 1	1A	4	1	1	2	0	102	0.598	*0.0	1.000	*0.0	*0.0	0.656	0.607	0.054
1A 3	964	SAVAGE	1 1	28	5	1	7	0	8	102	0.147	0.667	*0.0	0.333	*0.0	0.800	0.666	0.200
1C 22	975	SEASON	1 1	18	4	3	9	1	0	98	0.367	1.000	*0.0	*0.0	*0.0	0.639	0.556	0.050
1B 7	977	SECURE	1 1	2A	6	1	0	8	7	102	0.186	*0.0	0.421	0.579	*0.0	0.632	0.526	0.300
1B 21	987	SEPARATE	2 1	18	6	1	9	7	0	98	0.173	*0.0	1.000	*0.0	*0.0	0.412	0.412	0.0
1A 14	1015	SIGHT	1 1	1A	6	1	1	9	1	102	0.490	0.920	*0.080	*0.0	*0.0	0.780	0.640	0.0
1C 10	1023	SKIRT	1 1	2A	4	4	7	3	0	98	0.510	0.940	*0.060	*0.0	*0.0	0.640	0.620	0.032
1A 8	1029	SLOPE	1 2	28	4	1	8	2	0	102	0.108	1.000	*0.0	*0.0	*0.0	0.727	0.636	0.0
1B 8	1044	SORROW	1 1	2A	4	1	7	0	0	102	0.157	0.938	0.063	*0.0	*0.0	0.438	0.438	0.0
1C 4	1066	STANDARD	2 2	2A	5	3	3	7	0	98	0.143	0.286	*0.0	0.714	*0.0	0.714	0.643	0.111
1A 14	1057	STAR	1 1	18	4	4	0	0	0	102	0.725	1.000	*0.0	*0.0	*0.0	0.784	0.730	0.0
1C 9	1077	STIR	1 1	2A	4	1	2	8	0	98	0.757	*0.029	0.971	*0.0	*0.0	0.686	0.571	0.100
1A 7	1084	STRANGER	1 1	28	5	1	9	0	-1	102	0.480	0.898	*0.0	0.102	*0.0	0.837	0.755	0.216
1C 14	1106	SUPPLY	3 3	18	4	1	7	8	8	98	0.214	0.816	0.100	*0.0	*0.0	0.524	0.475	0.400
1A 27	1116	TAKE	1 1	1A	7	1	-1	1	0	102	0.382	*0.026	0.974	*0.0	*0.0	0.667	0.642	0.0
1A 11	1148	TOTAL	1 2	2A	7	1	3	1	6	102	0.343	0.600	*0.086	0.314	*0.0	0.771	0.420	0.133
1B 27	1152	TRADE	3 1	18	4	1	8	2	0	102	0.196	*0.0	1.000	*0.0	*0.0	0.600	0.450	0.222
1B 27	1153	TRAIN	1 1	1A	6	1	4	4	0	102	0.612	0.921	*0.079	*0.0	*0.0	0.714	0.666	0.286
1A 19	1215	WARM	2 1	14	6	1	0	3	7	102	0.765	*0.013	*0.026	0.962	*0.0	0.808	0.744	0.034
1B 18	1217	WASTE	1 1	18	7	1	4	5	1	102	0.363	0.270	0.730	*0.0	*0.0	0.703	0.486	0.111
1C 27	1245	WISH	3 1	1A	4	1	2	8	0	98	0.337	*0.061	0.939	*0.0	*0.0	0.667	0.667	0.182

TABLE 4.3 DATA FROM NORMATIVE STUDY (CONTINUED)

LEVEL 2, GRADE 6

LEVEL FORM	I #	WORD #	WORD	S D	C TH	G C	S C	MGF M	VECT V	A	INT N	% VALID N	BASE VALID	P(N)	P(V)	P(A)	P(OT)	P(2) 2ND	PIVAL 2ND R	PIGRAM CHANGE
2A	6	14	ACKNOWLEDGE	1 4	4A	4	1	-1	0	0	126	0.307	38	*0.0	1.000	*0.0	*0.0	0.526	0.368	0.071
2C	22	31	AFFECT	1 3	3A	4	1	4	0	0	138	0.304	42	*0.024	0.976	*0.0	*0.0	0.714	0.405	0.0
2A	14	57	ANCHOR	1 2	3A	4	1	6	4	0	126	0.627	79	0.785	0.215	*0.0	*0.0	0.873	0.760	0.600
2F	15	67	APPEAL	2 1	3A	4	1	5	5	0	138	0.507	70	*0.114	0.686	*0.0	*0.0	0.571	0.443	0.323
2R	12	81	ARREST	2 2	4A	4	1	6	4	0	141	0.773	109	0.229	0.771	*0.0	*0.0	0.679	0.578	0.397
2A	21	90	ASSOCIATE	2 3	3B	4	1	3	7	0	126	0.540	68	0.294	0.676	*0.029	*0.0	0.750	0.676	0.522
2A	6	97	ATTIRE	1 6	4B	4	1	9	1	0	141	0.149	21	0.571	0.429	*0.0	*0.0	0.476	0.381	0.375
2A	12	162	BOTHER	2 1	4A	4	1	9	0	0	126	0.754	95	*0.095	0.905	*0.0	*0.0	0.811	0.769	0.315
2C	6	165	BRACE	1 3	4B	4	3	3	7	0	138	0.768	106	0.491	0.509	*0.0	*0.0	0.887	0.868	0.565
2A	14	175	BUBBLE	1 1	3A	4	1	7	3	0	141	0.936	132	0.970	*0.030	*0.0	*0.0	0.994	0.833	0.119
2C	10	182	BUY	2 1	3A	4	1	1	6	0	138	0.899	124	*0.040	0.960	*0.0	*0.0	0.871	0.670	0.169
2C	20	192	CAREER	2 3	4B	4	1	9	-1	0	138	0.580	80	1.000	*0.0	*0.0	*0.0	0.675	0.575	0.022
2A	21	202	CELL	1 1	3A	4	3	0	-1	0	126	0.651	82	0.890	*0.110	*0.0	*0.0	0.768	0.707	0.138
2B	26	207	CHANNEL	1 3	3A	4	1	9	0	0	141	0.766	108	1.000	*0.0	*0.0	*0.0	0.833	0.824	0.011
2C	20	208	CHAPTER	2 3	4A	4	1	9	-1	0	141	0.851	120	0.992	*0.008	*0.0	*0.0	0.700	0.617	0.027
2C	4	217	CHOCOLATE	1 1	4A	5	1	0	-1	0	138	0.935	129	0.349	*0.0	0.651	*0.0	0.899	0.868	0.366
2B	21	302	DESIGN	2 2	3A	4	3	5	0	0	141	0.723	102	0.520	0.480	*0.0	*0.0	0.824	0.804	0.585
2A	13	315	DIP	1 1	3A	4	3	2	8	0	126	0.952	120	0.292	0.708	*0.0	*0.0	0.925	0.867	0.519
2A	20	327	DIVORCE	2 3	4B	4	1	7	3	0	126	0.683	86	0.547	0.453	*0.0	*0.0	0.721	0.616	0.491
2A	11	329	DOCK	1 1	3A	4	3	9	1	0	126	0.891	111	0.820	0.180	*0.0	*0.0	0.883	0.721	0.475
2C	24	338	DRUNK	2 1	4H	7	1	2	1	7	138	0.804	111	*0.027	0.423	0.550	*0.0	0.865	0.847	0.670
2C	19	340	DRUG	2 1	3B	4	1	2	1	0	138	0.703	108	0.963	*0.037	*0.0	*0.0	0.954	0.889	0.156
2A	3	353	ELDER	1 1	3B	5	1	2	0	8	126	0.722	91	0.670	*0.0	0.330	*0.0	0.791	0.670	0.246
2B	5	371	ESTIMATE	1 3	4A	4	1	3	7	0	141	0.695	98	0.276	0.724	*0.0	*0.0	0.765	0.734	0.403
2C	26	415	FIST	1 1	3B	4	1	9	-1	0	138	0.543	75	0.947	*0.027	*0.027	*0.0	0.680	0.666	0.160
2C	5	453	GIRDLE	1 1	4B	4	1	7	3	0	138	0.652	90	0.989	*0.011	*0.0	*0.0	0.689	0.656	0.068
2A	24	457	GLARE	1 3	4A	7	1	5	4	1	126	0.603	76	0.829	0.171	*0.0	*0.0	0.634	0.631	0.417
2A	24	465	GRADUATE	2 3	4A	7	1	3	4	4	141	0.596	94	0.286	0.714	*0.0	*0.0	0.750	0.691	0.586
2A	25	470	GRIN	1 2	4B	4	1	9	6	0	126	0.651	82	0.415	0.585	*0.0	*0.0	0.634	0.622	0.529
2A	13	491	HEDGE	1 3	3A	4	2	1	6	0	126	0.627	79	0.924	*0.076	*0.0	*0.0	0.620	0.494	0.308
2B	13	511	HUM	2 1	3A	4	1	4	6	0	141	0.738	104	*0.058	0.942	*0.0	*0.0	0.817	0.712	0.270
2C	21	519	HUT	2 1	3A	4	1	9	-1	0	138	0.652	90	1.000	*0.0	*0.0	*0.0	0.656	0.467	0.071
2A	25	534	INCENSE	1 4	4A	4	3	5	5	0	141	0.706	29	1.000	*0.0	*0.0	*0.0	0.517	0.448	0.0
2B	9	540	INDIVIDUAL	2 3	3A	5	1	7	0	1	141	0.553	78	0.385	*0.0	0.615	*0.0	0.744	0.603	0.511
2C	13	561	JAW	2 1	3A	4	1	9	0	0	138	0.768	106	0.972	*0.028	*0.0	*0.0	0.802	0.689	0.192
2B	10	562	JOB	2 1	3A	4	1	2	1	0	141	0.972	137	1.000	*0.0	*0.0	*0.0	0.832	0.766	0.0
2A	16	577	KNOT	1 1	3B	4	3	7	3	7	101	0.802	101	0.980	*0.020	*0.0	*0.0	0.792	0.703	0.197
2A	5	588	LAST	3 1	1A	8	3	1	2	7	126	0.937	118	0.930	*0.110	0.881	*0.008	0.966	0.966	0.316
2A	7	610	LIBERAL	1 5	4A	5	3	3	0	7	126	0.183	23	0.300	*0.0	0.694	*0.0	0.686	0.566	0.231
2A	16	624	LINK	1 7	3B	4	3	6	6	0	141	0.667	94	0.734	0.255	*0.011	*0.0	0.777	0.596	0.321
2A	11	652	MAJOR	2 1	4A	7	3	2	1	5	126	0.817	103	0.660	*0.039	0.301	*0.0	0.342	0.903	0.570

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TABLE 4.7   DATA FROM NORMATIVE STUDY (CONTINUED)

LEVEL 2, GRADE 6

LEVEL. FORM	T #	WORD #	WORD	S D	TH	GS C M	MGF VECT. N V A	TOT. N	% VALID	BASE N	P(N)	P(V)	P(A)	P(OT)	P(2ND R)	P(GRAM CHANGE)
2C	1	470	MATURE	1 4	4A	0 1	0 5 5	138	0.406	56	*0.0	0.143	0.857	*0.0	0.696 0.607	0.382
2C	16	698	MIST	2 3	3A	4 1	9 -1 0	138	0.529	73	0.986	0.014	*0.0	*0.0	0.699 0.548	0.025
2C	7	700	MEAL	2 4	3A	5 1	1 0 0	138	0.333	46	0.570	*0.0	0.130	*0.0	0.674 0.456	0.333
2C	11	712	MOTIVE	1 4	3B	7 1	9 -1 1	138	0.198	26	0.967	*0.0	*0.038	*0.0	0.615 0.307	0.0
2C	25	713	METHOD	1 1	4A	4 1	8 2 0	138	0.730	102	0.690	*0.0	*0.010	*0.0	0.755 0.656	0.045
2A	10	741	OFFICER	2 1	3A	4 1	9 -1 0	126	0.905	114	1.000	*0.0	*0.0	*0.0	0.816 0.790	0.0
2C	14	704	PARTNER	2 1	1B	4 1	7 -1 0	138	0.926	114	1.000	*0.0	*0.0	*0.0	0.675 0.596	0.015
2A	4	827	PLANE	2 1	4B	4 3	9 1 0	126	0.841	106	0.981	*0.019	*0.0	*0.0	0.849 0.576	0.016
2C	15	839	POLICE	2 1	4A	4 1	9 1 0	118	0.855	118	0.941	*0.059	*0.0	*0.0	0.939 0.737	0.184
2A	9	844	POLL	1 4	4B	4 1	8 2 0	126	0.214	27	1.000	*0.0	*0.0	*0.0	0.704 0.296	0.125
2A	27	982	PROGRESS	1 3	3A	4 1	7 3 0	126	0.603	76	0.816	0.184	*0.0	*0.0	0.658 0.619	0.277
2A	9	954	QUIVER	1 3	4B	4 3	8 0	141	0.433	61	0.197	0.804	*0.0	*0.0	2.672 0.574	0.457
2A	11	926	RELATIVE	2 3	3A	5 4	7 0 3	141	0.652	92	0.793	*0.0	0.207	*0.0	0.563 0.597	0.309
2A	27	936	RESERVE	2 4	3A	4 1	4 0 0	141	0.567	80	*0.112	0.850	*0.037	*0.0	0.662 0.587	0.340
2A	1	943	REVEREND	1 4	4B	5 1	-1 0 0	141	0.213	30	0.900	0.000	0.100	*0.0	0.667 0.434	0.154
2C	77	944	RICE	2 1	3A	4 1	9 -1 0	138	0.717	99	0.990	*0.010	*0.0	*0.0	0.717 0.626	0.032
2C	9	956	ROVE	1 3	4A	4 1	1 0 0	138	0.087	12	0.0	1.000	*0.0	*0.0	0.500 0.333	0.0
2A	19	967	SCARF	2 3	3A	4 1	9 0	126	0.807	101	*0.099	0.901	*0.0	*0.0	0.792 0.703	0.254
2B	19	972	SCREAM	2 1	3A	4 1	1 0 0	141	0.752	106	0.226	0.774	*0.0	*0.0	0.774 0.642	0.456
2C	3	973	SCREEN	1 1	4A	4 3	9 1 0	138	0.884	122	0.910	*0.023	*0.057	*0.0	0.934 0.869	0.236
2C	19	1002	SHIFT	2 3	3B	4 1	9 1 0	138	0.725	100	0.480	0.520	*0.0	*0.0	0.900 0.850	0.553
2A	15	1033	SNAKE	2 1	3B	5 1	9 -1 0	126	0.825	104	0.971	*0.029	*0.0	*0.0	0.858 0.751	0.103
2A	23	1034	SNATCH	1 2	3B	3 1	1 0 0	126	0.714	90	0.0	1.000	*0.0	*0.0	0.600 0.522	0.064
2C	7	1039	SOLITARY	1 4	4A	5 1	2 0 8	138	0.348	48	0.208	0.3	0.792	*0.0	0.604 0.417	0.150
2C	1	1049	SPARE	2 4	2A	6 4	8 2 0	141	0.943	133	*0.068	0.361	0.571	*0.0	0.932 0.880	0.641
2B	15	1053	SPEAR	2 1	3A	7 1	8 2 0	141	0.794	112	0.866	*0.134	*0.0	*0.0	0.768 0.660	0.338
2B	4	1057	SPIT	2 1	4B	4 3	5 5 0	141	0.624	88	*0.091	0.909	*0.0	*0.0	0.716 0.625	0.455
2A	23	1063	STAIN	1 3	3A	4 1	7 0 0	141	0.745	105	0.838	0.162	*0.0	*0.0	0.657 0.600	0.444
2A	19	1074	STEED	2 1	3B	4 3	9 0 0	141	0.801	113	0.336	0.464	*0.0	*0.0	0.885 0.832	0.617
2A	9	1111	SWAMP	1 1	4A	4 3	1 0 0	125	0.825	104	0.942	*0.058	*0.0	*0.0	0.769 0.673	0.286
2A	17	1178	TENTH	2 3	3A	5 1	1 0 9	141	0.858	121	*0.066	0.0	0.934	*0.0	0.818 0.776	0.170
2A	23	1183	TRIUMPH	1 3	3B	4 1	4 0 0	138	0.275	38	0.711	0.289	*0.0	*0.0	0.632 0.447	0.176
2A	22	1171	TWINE	1 3	4A	6 1	6 4 0	141	0.604	67	0.912	0.088	*0.0	*0.0	0.754 0.648	0.270
2A	17	1172	TYPE	2 3	3A	4 2	9 1 4	126	0.849	107	0.446	0.542	0.009	*0.0	0.897 0.823	0.682
2C	17	1192	UNIFORM	1 3	3B	4 1	9 1 0	150	0.797	110	0.373	0.009	*0.018	*0.0	0.764 0.755	0.133
2A	22	1205	VISION	1 3	3B	4 1	9 1 0	126	0.651	82	0.976	0.024	*0.0	*0.0	0.720 0.671	0.164
2B	2	1219	WAX	1 1	3A	4 1	4 6 0	141	1.000	141	0.199	0.759	0.043	*0.0	0.957 0.943	0.812
2B	22	1237	WITCH	1 1	3A	4 1	9 1 0	141	0.660	92	1.000	*0.0	*0.0	*0.0	0.742 0.430	0.0
2A	14	1244	WORRY	2 1	3B	4 2	1 0 0	126	0.873	119	0.976	0.024	*0.0	*0.0	0.745 0.700	0.182
2C	8	1250	YELL	1 1	4A	4 4	2 8 0	138	0.920	127	*0.087	0.913	*0.0	*0.0	0.701 0.630	0.162

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TABLE 4.3   DATA FROM NORMATIVE STUDY (CONTINUED)

LEVEL 2, GRADE 6

LEVEL,I FORM	WORD #	WORD	S	O TH	G S / C M	MGF N	VECT N V A	TOT. N	% VALID	N	P(V)	P(V)	P(A)	P(DT)	P(2)	P(VAL. 2ND S)	PIGRAM CHANGE
2A 6	14	ACKNOWLEDGE	1 4	4A 4	1 1	-1	0 9 0	102	0.627	64	*0.016	0.984	*0.0	*0.0	0.453	0.344	0.091
2C 22	31	AFFECT	1 3	3A 4	1 1	1	1 9 0	97	0.175	17	*0.0	1.000	*0.0	*0.0	0.882	0.294	0.0
2A 14	67	ANCHOR	1 2	3R 4	1 1	6	6 4 0	102	0.706	72	0.597	0.403	*0.0	*0.0	0.833	0.777	0.696
2C 15	67	APPEAL	2 3	3A 4	1 1	6	6 4 0	97	0.577	56	0.357	0.643	*0.0	*0.0	0.821	0.768	0.558
2A 17	81	ARREST	2 2	4A 4	1 1	6	6 4 0	104	0.877	93	0.355	0.645	*0.0	*0.0	0.688	0.645	0.667
2A 21	90	ASSOCIATE	2 2	3R 4	1 1	3	3 7 0	102	0.559	57	0.456	0.544	*0.0	*0.0	0.877	0.842	0.792
2A 6	97	ATTIRE	1 6	4B 4	1 1	9	1 9 0	106	0.585	62	0.871	0.129	*0.0	*0.0	0.516	0.451	0.679
2A 12	162	BOTHER	2 1	4A 4	1 1	3	3 7 0	102	0.676	69	*0.116	0.884	*0.0	*0.0	0.768	0.768	0.528
2C 6	165	BRACE	1 3	4B 4	3	3	3 7 0	97	0.697	67	0.437	0.563	*0.0	*0.0	0.908	0.896	0.846
2A 14	175	BURBLE	1 1	3A 4	1 7	7	3 0	106	0.840	89	0.921	*0.067	*0.011	*0.0	0.798	0.787	0.314
2C 10	182	BUY	2 1	3A 4	1 1	9	1 0 0	97	0.804	78	*0.064	0.936	*0.0	*0.0	0.679	0.576	0.356
2C 20	192	CAREER	2 3	4B 4	1 1	9	-1 0	97	0.536	52	1.000	*0.0	*0.0	*0.0	0.615	0.519	0.037
2A 26	202	CELL	1 1	3A 4	3	9	-1 0	102	0.549	56	0.982	*0.018	*0.0	*0.0	0.857	0.839	0.043
2A 26	207	CHANNEL	1 3	3H 4	1 9	9	1 0	106	0.670	71	0.972	*0.028	*0.0	*0.0	0.845	0.817	0.138
2B 20	208	CHAPTER	2 3	4A 4	1 9	9	-1 0	106	0.755	80	1.000	*0.0	*0.0	*0.0	0.437	0.599	0.042
2C 6	217	CHOCOLATE	1 1	4A 5	1	9	0 1	97	0.948	92	0.457	*0.0	0.543	*0.0	0.772	0.761	0.614
2A 21	302	DESIGN	2 3	3A 4	1 5	5	5 0	106	0.708	75	0.520	0.480	*0.0	*0.0	0.827	0.801	0.750
2A 11	315	DIP	1 1	3A 4	3	8	8 0	102	0.941	96	0.573	0.427	*0.0	*0.0	0.927	0.917	0.580
2A 20	377	DIVORCE	2 3	4B 4	1 7	7	3 0	102	0.529	54	0.667	0.333	*0.0	*0.0	0.685	0.519	0.571
2A 5	329	DOCK	2 1	4A 4	3	9	1 0	102	0.814	83	0.602	0.398	*0.0	*0.0	0.855	0.770	0.797
2C 24	338	DRUNK	2 1	4B 7	2 1	7	2 1 7	97	0.515	50	*0.020	0.280	0.700	*0.0	0.860	0.860	0.837
2C 18	340	DRUG	2 1	3B 4	1 9	9	1 0	97	0.639	62	0.806	0.194	*0.0	*0.0	0.823	0.726	0.467
2A 3	353	ELDER	3 1	3B 5	2 2	2	0 8	102	0.833	85	0.671	*0.0	0.329	*0.0	0.635	0.494	0.405
2A 5	371	ESTIMATE	2 3	4A 6	1 7	7	0	106	0.849	90	0.478	0.522	*0.0	*0.0	0.667	0.656	0.661
2C 26	415	FIST	1 2	3R 4	1 7	7	-1 0	97	0.402	39	1.000	*0.0	*0.0	*0.0	0.513	0.359	0.143
2C 5	453	GIRDLE	1 4	4B 4	1 7	7	3 0	97	0.763	74	0.932	*0.068	*0.0	*0.0	0.568	0.528	0.308
2A 24	457	GLARE	1 3	4A 7	1 5	5	1 0	102	0.539	55	0.836	0.164	*0.0	*0.0	0.727	0.709	0.564
2A 24	465	GRADUATE	2 3	4A 7	1 3	3	3 4	106	0.708	75	0.400	0.507	0.093	*0.0	0.843	0.880	0.682
2A 25	470	GRIT	1 2	4B 4	1 4	4	6 0	102	0.520	53	0.566	0.434	*0.0	*0.0	0.566	0.547	0.621
2A 13	491	HEDGE	3 3	3A 4	2 9	9	0 0	102	0.667	68	0.941	0.059	*0.0	*0.0	0.632	0.529	0.472
2A 13	511	HUM	1 1	3B 4	1 9	9	0	106	0.764	81	0.222	0.778	*0.0	*0.0	0.657	0.630	0.373
2C 21	519	HUT	2 1	3A 4	1	-1	-1 0	97	0.412	40	1.000	*0.0	*0.0	*0.0	0.425	0.250	0.0
2B 25	534	INCENSE	1 4	4A 4	5	5	5 0	106	0.462	49	0.980	*0.020	*0.0	*0.0	0.510	0.469	0.174
2A 7	540	INDIVIDUAL	2 3	3A 5	1 7	7	0	106	0.906	96	0.677	0.021	0.302	*0.0	0.813	0.667	0.750
2C 12	561	JAM	1 1	3A 4	1 9	9	0	106	0.639	62	0.984	*0.016	*0.0	*0.0	0.581	0.533	0.242
2A 10	562	JOB	2 1	3A 4	1	9	1 0	106	0.877	93	0.957	*0.043	*0.0	*0.0	0.499	0.503	0.089
2A 16	577	KNOT	1 2	3B 4	1 7	7	3 0	102	0.686	70	0.871	0.129	*0.0	*0.0	0.800	0.743	0.405
2A 7	588	LAST	3 1	1A 8	1 1	2	2 7	102	0.971	99	*0.020	0.071	0.909	*0.0	0.939	0.909	0.344
2A 7	610	LIBERAL	1 5	4A 5	3	3	0 7	102	0.539	55	0.236	*0.0	0.764	*0.0	0.745	0.636	0.371
2B 16	624	LINK	1 7	3B 4	3	4	6 2	106	0.745	79	0.747	0.253	*0.0	*0.0	0.772	0.721	0.544
2A 11	652	MAJOR	2 1	4A 7	3	3	2 5	102	0.784	80	0.497	*0.063	0.450	*0.0	0.950	0.938	0.867

TABLE 4.3   DATA FROM NORMATIVE STUDY (CONTINUED)

LEVEL 7, GRADE 9

LEVEL FORM	T #	WOPD #	WORD	S	D	TH	G C	M	S C	M	MGF N	V	A	TOT. N	X VALID	N	P(N)	P(V)	P(A)	P(OT)	P(2)	PIVAL 2ND R	PIGRAM CHANGE
2C	1	470	MATURE	1	4	4A	6	1	1		0	5	5	97	0.856	83	*0.0	0.169	0.031	*0.0	0.783	0.675	0.518
2C	16	598	MIST	1	3	3A	4	1	1		9	-1	0	97	0.577	56	0.982	*0.018	*0.0	*0.0	0.607	0.410	0.097
2C	2	709	MORAL	2	4	3A	5	1	1		1	1	0	97	0.742	72	0.667	*0.0	0.333	*0.0	0.687	0.528	0.421
2C	11	712	MOTIVE	1	4	3B	4	1	1		8	-1	1	97	0.629	61	1.000	*0.0	*0.0	*0.0	0.557	0.360	0.045
2C	25	713	MOTOR	1	1	4A	4	1	1		8	2	0	97	0.443	43	0.953	*0.047	*0.0	*0.0	0.767	0.627	0.222
2A	10	761	OFFICER	2	1	3A	4	1	1		9	-1	0	102	0.794	81	0.975	*0.025	*0.0	*0.0	0.667	0.654	0.057
2C	14	794	PARTNER	2	1	3B	4	3	1		9	1	0	97	0.560	64	0.984	*0.0	*0.016	*0.0	0.469	0.422	0.185
2A	4	827	PLANE	2	1	4B	4	3	1		9	1	0	102	0.873	89	0.944	*0.056	*0.0	*0.0	0.388	0.663	0.119
2C	12	839	POLICE	2	1	4A	4	1	1		9	1	0	97	0.732	71	0.859	0.141	*0.0	*0.0	0.803	0.732	0.558
2A	9	844	POLL	1	4	4B	4	1	1		8	2	0	102	0.549	56	0.911	*0.089	*0.0	*0.0	0.732	0.464	0.269
2A	27	847	PROGRESS	2	4	3A	4	1	1		7	3	0	102	0.520	53	0.887	0.113	*0.0	*0.0	0.698	0.696	0.622
2B	9	905	QUIVER	1	3	4B	4	3	1		2	8	0	106	0.698	74	0.149	0.851	*0.0	*0.0	0.715	0.535	0.468
2B	11	926	RELATIVE	2	3	3A	5	4	1		7	0	3	106	0.736	78	0.769	*0.0	0.231	*0.0	0.769	0.672	0.736
2B	26	936	RESERVE	2	3	3-	4	1	1		6	0	0	106	0.594	63	0.238	0.730	*0.032	*0.0	0.873	0.857	0.574
2A	14	943	REVEREND	1	4	4B	5	1	-1		6	0	0	106	0.387	41	0.854	*0.0	0.146	*0.0	0.428	0.244	0.300
2C	27	944	RICE	2	1	3A	4	1	1		-1	0	0	97	0.433	42	1.000	*0.0	*0.0	*0.0	0.619	0.595	0.160
2C	9	956	ROVE	1	3	4A	4	4	1		9	0	0	97	0.340	33	*0.0	1.000	*0.0	*0.0	0.424	0.273	0.590
2A	19	967	SCARE	2	1	3A	4	1	-1		9	0	0	102	0.618	63	0.206	0.794	*0.0	*0.0	0.714	0.619	0.590
2A	19	972	SCREAM	2	1	3A	4	1	9		1	9	0	106	0.774	82	0.305	0.695	*0.0	*0.0	0.780	0.719	0.644
2C	3	973	SCREEN	1	1	4A	4	3	9		1	0	0	97	0.907	88	0.807	0.159	*0.034	*0.0	0.820	0.857	0.380
2C	19	1002	SHIFT	2	3	3B	4	1	1		9	1	0	97	0.536	52	0.635	0.365	*0.0	*0.0	0.885	0.847	0.727
2A	15	1033	SNAKE	2	1	3B	4	1	9		-1	0	0	102	0.716	73	0.986	*0.014	*0.0	*0.0	0.658	0.644	0.234
2C	23	1034	SNATCH	1	2	3B	4	1	1		9	0	0	102	0.549	56	*0.036	0.964	*0.0	*0.0	0.464	0.411	0.348
2C	7	1039	SOLITARY	1	4	4B	5	1	2		0	0	8	97	0.649	63	0.127	*0.0	0.873	*0.0	0.603	0.460	0.207
2H	7	1049	SPARE	2	4	7A	6	4	2		8	2	2	106	0.953	101	*0.119	0.465	0.416	*0.0	0.950	0.921	0.828
2B	16	1053	SPEAR	2	1	3A	4	4	1		8	2	0	106	0.811	86	0.791	0.209	*0.0	*0.0	0.814	0.721	0.645
2B	4	1057	SPIT	2	4	4B	4	3	1		5	5	0	106	0.745	70	*0.114	0.887	*0.0	*0.0	0.722	0.671	0.585
2A	23	1063	STAIN	1	3	3A	4	1	1		3	7	0	106	0.660	70	0.657	0.343	*0.0	*0.0	0.771	0.756	0.642
2B	18	1074	STEER	2	1	3B	4	3	1		9	0	0	106	0.764	81	0.432	0.568	*0.0	*0.0	0.889	0.877	0.845
2A	8	1111	SWAMP	1	1	4A	4	3	9		1	0	0	102	0.716	73	0.781	0.219	*0.0	*0.0	0.808	0.781	0.632
2B	17	1128	TENTH	1	3	3A	5	1	1		1	0	9	106	0.792	84	*0.083	*0.012	0.905	*0.0	0.714	0.630	0.132
2C	23	1163	TRIUMPH	1	3	3B	7	4	2		8	2	0	97	0.330	32	0.625	0.375	*0.0	*0.0	0.719	0.563	0.611
2A	9	1171	TWINE	1	3	4A	4	1	6		6	6	0	106	0.557	56	0.746	0.254	*0.0	*0.0	0.610	0.525	0.548
2A	17	1172	TYPE	1	1	3A	4	2	7		4	2	0	102	0.667	68	0.456	0.544	*0.0	*0.0	0.971	0.956	0.846
2C	17	1182	UNIFORM	1	1	3A	7	4	5		1	1	0	97	0.629	61	0.869	*0.033	*0.098	*0.0	0.770	0.737	0.600
2A	22	1205	VISION	1	1	3B	4	1	9		1	8	0	102	0.588	60	0.933	*0.067	*0.0	*0.0	0.800	0.783	0.234
2H	7	1219	WAX	2	4	3A	4	3	4		6	6	0	106	0.953	101	0.337	0.485	0.178	*0.0	0.941	0.911	0.837
2A	22	1237	WITCH	1	1	3A	4	1	5		1	1	0	106	0.634	64	0.969	*0.031	*0.0	*0.0	0.909	0.437	0.107
2A	14	1244	WORRY	2	1	3B	4	1	9		2	8	0	102	0.657	67	*0.060	0.940	*0.0	*0.0	0.701	0.611	0.366
2C	8	1259	YELL	1	1	4A	4	1	2		2	8	0	97	0.845	82	*0.065	0.915	*0.0	*0.0	0.610	0.573	0.489

TABLE 4.2   DATA FROM NORMATIVE STUDY (CONTINUED)

LEVEL 3, GRADE 9

LEVEL FORM	I WORD #	WORD	S	D	TH	C	M	N	V	A	TOT. N	% VALID	N	P(N)	P(V)	P(A)	P(DT)	P(2)	D(VAL. 2ND R)	P(GRAM. CHANGE)
3C 8	37	AGED	7	7	6	6	1	0	5	5	138	0.891	123	*0.0	0.626	0.374	*0.0	0.829	0.691	0.635
3B 6	60	ANIMATE	1	6	6	6	1	0	9	1	147	0.490	72	*0.0	0.889	*0.111	*0.0	0.639	0.445	0.125
3B 26	101	AUTO	1	1	5A	5	1	9		0	147	0.653	96	0.969	*0.0	*0.031	*0.0	0.604	0.417	0.275
3C 7	111	BADGER	3	4	7	4	4	9	1	0	138	0.471	65	0.723	0.277	*0.0	*0.0	0.585	0.493	0.563
3C 19	139	BIAS	1	7	6	4	3	9	-1	0	138	0.466	56	0.179	0.571	0.250	*0.0	0.500	0.482	0.630
3A 7	151	BLOUSE	1	2	7	4	1	9	-1	0	143	0.937	134	0.978	0.022	*0.0	*0.0	0.552	0.500	0.219
3A 7	176	BUFFALO	2	1	6	4	1	9	-1	0	143	0.755	108	0.944	*0.056	*0.0	*0.0	0.759	0.592	0.234
3A 8	181	BUSTLE	1	6	7	4	6	4	6	0	147	0.361	53	0.774	0.225	*0.0	*0.0	0.472	0.453	0.500
3C 3	190	CARDINAL	1	3	6	5	3	7	0	3	147	0.844	124	0.895	*0.105	*0.0	*0.0	0.903	0.870	0.176
3C 4	210	CHART	1	1	5B	4	1	9	1	0	138	0.928	128	0.742	0.258	*0.0	*0.0	0.867	0.836	0.626
3H 7	216	CHISEL	1	2	6	4	1	4	6	0	147	0.769	113	0.726	0.274	*0.0	*0.0	0.885	0.850	0.750
3C 7	230	CLOWN	1	1	7	4	1	9	-1	0	131	0.949	131	0.756	0.244	*0.0	*0.0	0.962	0.962	0.619
3C 17	237	COMMENT	2	3	6	4	1	7	3	0	138	0.812	112	0.813	0.188	*0.0	*0.0	0.714	0.687	0.610
3A 25	263	COSTUME	1	3	5B	4	1	9	1	0	143	0.776	111	0.973	*0.018	*0.009	*0.0	0.703	0.667	0.176
3B 25	274	CROUCH	1	3	5B	4	1	9	9	0	143	0.490	72	*0.069	0.931	*0.0	*0.0	0.528	0.417	0.333
3A 4	285	DAZZLE	1	3	5A	4	1	1	9	0	143	0.741	106	0.217	0.774	*0.009	*0.0	0.745	0.650	0.362
3A 15	309	DIAL	1	3	6	4	1	9	2	0	143	0.818	117	0.265	0.718	*0.017	*0.0	0.915	0.659	0.870
3A 24	313	DIGEST	1	3	7	4	1	2	8	0	143	0.818	117	0.368	0.632	*0.0	*0.0	0.949	0.923	0.843
3A 5	329	DIZZY	1	2	6	4	1	6	1	9	143	0.951	136	*0.0	*0.0	1.000	*0.0	0.824	0.780	0.057
3B 15	347	ECLIPSE	1	3	6	4	1	8	2	0	147	0.735	108	0.944	*0.056	*0.0	*0.0	0.556	0.510	0.389
3B 1	367	EPIDEMIC	1	3	8	5	1	8	8	0	147	0.701	103	0.971	*0.0	*0.029	*0.0	0.534	0.379	0.256
3C 12	369	EQUIVALENT	1	4	7	5	1	3	0	7	143	0.746	107	0.206	0.794	*0.0	*0.0	0.617	0.514	0.291
3C 1	379	EXEMPT	1	5	6	5	1	0	5	5	138	0.377	52	*0.0	0.269	0.731	*0.0	0.615	0.442	0.304
3B 12	381	EXPEDIENT	1	7	7	5	1	7	0	3	147	0.095	14	*0.0	0.071	0.929	*0.0	0.571	0.428	0.0
3C 25	384	EXTRACT	1	4	5B	4	1	4	6	0	138	0.616	85	0.541	0.459	*0.0	*0.0	0.741	0.635	0.852
3C 15	419	FLIRT	1	3	6	4	1	4	6	0	138	0.761	105	0.410	0.590	*0.0	*0.0	0.686	0.657	0.609
3A 13	423	FOIL	1	6	5B	4	3	4	6	0	143	0.874	125	0.720	0.280	*0.0	*0.0	0.856	0.824	0.738
3A 21	436	FRAY	1	6	6	4	2	7	5	0	143	0.392	56	0.232	0.768	*0.0	*0.0	0.607	0.535	0.500
3C 20	447	FUNCTION	2	4	5A	4	1	5	5	0	138	0.783	108	0.463	0.537	*0.0	*0.0	0.750	0.703	0.671
3C 13	476	GROWL	1	2	5A	4	1	7	7	0	147	0.721	106	0.274	0.726	*0.0	*0.0	0.642	0.623	0.515
3A 24	502	HOIST	1	4	7	4	1	7	8	0	138	0.463	68	*0.074	0.926	*0.0	*0.0	0.515	0.383	0.577
3A 21	504	HONEYCOMB	1	3	6	4	1	7	-1	0	147	0.503	74	*0.986	*0.014	*0.0	*0.0	0.541	0.352	0.115
3A 1	509	HUDDLE	1	3	7	4	1	1	0	0	143	0.909	130	0.715	0.285	*0.0	*0.0	0.854	0.816	.736
3B 73	530	IMPRESS	2	3	5A	4	1	1	9	0	147	0.707	104	*0.019	0.981	*0.0	*0.0	0.721	0.615	0.188
3B 20	551	INTELLECTUAL	2	5	7	6	1	2	0	7	138	0.490	77	0.375	*0.0	0.625	*0.0	0.583	0.514	0.486
3C 21	559	ITCH	2	6	6	4	1	8	2	0	116	0.841	116	0.681	0.319	*0.0	*0.0	0.819	0.776	0.456
3C 6	622	LIMP	1	1	5B	6	4	0	4	6	138	0.899	124	0.306	0.435	0.250	*0.008	0.774	0.717	0.764
3A 20	631	LOAN	2	1	7	4	1	9	1	0	143	0.853	122	0.459	0.533	*0.008	*0.0	0.828	0.787	0.844
3A 14	678	MELLOW	1	5	5A	4	1	0	1	9	143	0.664	95	*0.0	*0.011	0.989	*0.0	0.747	0.589	0.125
3A 18	735	NIBBLE	1	1	7	4	1	7	7	0	143	0.769	110	*0.109	0.891	*0.0	*0.0	0.673	0.600	0.470
3C 12	742	NORTHEAST	1	7	7	5	1	3	0	7	138	0.768	106	0.415	*0.0	0.330	0.255	0.840	0.585	0.581

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TABLE 4.3   DATA FROM NORMATIVE STUDY (CONTINUED)

LEVEL 3, GRADE 9

LEVEL/FORM	#	WORD #	WORD	S	D	TH	G C	S M	MGF N	V	A	TOT. N	% VALID	BASE N	P(N)	P(..)	P(A)	P(OT)	P(2)	P(VAL. 2ND R)	P(GRAM. CHANGE)
3C	26	746	NOVEL	1	3	5A	5	4	R	0	2	138	0.717	99	0.879	*0.0	*0.121	*0.0	0.667	0.556	0.527
3A	6	762	OFFICIAL	2	3	3A	5	1	5	0	5	143	0.944	135	0.459	*0.0	0.541	*0.0	0.941	0.918	0.758
3A	18	775	OUTRAGE	1	1	6	4	1	7	3	0	147	0.741	109	0.892	0.110	*0.0	*0.0	0.596	0.495	0.399
3C	12	777	OVERTURN	1	1	5A	4	1	9	9	0	138	0.826	114	0.089	0.912	*0.0	*0.0	0.702	0.684	0.244
3A	16	791	PARROT	1	2	5R	4	1	9	-1	0	143	0.853	122	0.975	*0.025	*0.0	*0.0	0.574	0.517	0.159
3C	24	798	PATTER	1	1	7	4	1	9	-4	0	138	0.420	58	0.810	0.190	*0.0	*0.0	0.517	0.362	0.619
3A	3	805	PENITENT	1	6	7	5	1	4	0	6	143	0.168	23	0.174	*0.0	0.826	*0.0	0.458	0.375	0.222
3C	18	807	PENSION	1	7	6	4	3	9	-1	0	138	0.659	91	1.000	*0.0	*0.0	*0.0	0.582	0.483	0.091
3A	10	822	PIKE	1	4	7	4	3	9	-1	0	143	0.280	40	1.000	*0.0	*0.0	*0.0	0.650	0.375	0.0
3A	16	828	PLANK	1	2	5A	4	1	9	-1	0	147	0.735	108	1.000	*0.0	*0.0	*0.0	0.583	0.555	0.100
3A	8	836	POETIC	1	5	6	5	1	-1	0	9	147	0.707	104	*0.0	*0.0	1.000	*0.0	0.538	0.709	0.0
3A	22	847	PRESSURE	2	3	5A	4	1	9	-1	0	147	0.799	116	0.862	*0.13A	*0.0	*0.0	0.971	0.871	0.327
3C	5	873	PRIMARY	2	5	5B	5	3	1	2	0	138	0.846	117	0.077	*0.0	0.923	*0.0	0.846	0.803	0.234
3A	22	881	PROGRAM	2	2	5B	4	1	1	-1	0	143	0.881	126	0.833	0.167	*0.0	*0.0	0.921	0.905	0.439
3C	22	893	PROJECT	2	4	5A	4	3	9	7	0	138	0.768	106	0.821	0.179	*0.0	*0.0	0.925	0.840	0.596
3A	16	891	PROPOSITION	1	4	5B	4	1	9	-1	0	139	0.681	94	0.989	*0.011	*0.0	*0.0	0.511	0.447	0.214
3A	10	901	PYRAMID	1	3	7	4	1	9	-1	0	147	0.816	120	0.992	*0.008	*0.0	*0.0	0.708	0.700	0.071
3C	2	910	RADICAL	1	5	7	5	3	-1	0	9	138	0.638	88	0.273	*0.0	0.727	*0.0	0.670	0.602	0.477
3A	23	970	SCISSOR	1	7	5A	4	1	9	-1	0	143	0.776	111	0.919	*0.072	*0.009	*0.0	0.757	0.712	0.354
3A	11	971	SCOOP	1	3	6	4	1	2	8	0	143	0.902	129	0.558	0.442	*0.0	*0.0	0.953	0.945	0.607
3B	14	1027	SLEIGH	1	1	5A	4	1	8	2	0	147	0.646	95	0.937	0.063	*0.0	*0.0	0.758	0.706	0.463
3A	11	1036	SOCKET	1	3	6	4	1	1	4	0	147	0.810	119	1.000	*0.0	*0.0	*0.0	0.706	0.572	0.044
3C	10	1059	SPLINTER	1	6	7	4	1	7	3	0	138	0.864	122	0.893	0.107	*0.0	*0.0	0.754	0.697	0.506
3C	11	1064	STAMMER	1	1	6	4	1	-1	9	0	138	0.478	66	0.121	0.879	*0.0	*C.0	0.606	0.500	0.364
3A	17	1088	STROLL	1	4	6	4	1	1	9	0	143	0.825	118	0.678	0.322	*0.0	*0.0	0.627	0.508	0.650
3A	9	1090	STRUCTURE	3	4	7	4	1	9	-1	0	143	0.974	125	0.984	*0.016	*0.0	*0.0	0.704	0.776	0.144
3C	14	1110	SUSPICION	3	3	5R	5	1	1	9	0	138	0.659	91	1.000	*0.0	*0.0	*0.0	0.626	0.516	0.021
3H	17	1115	TAG	1	1	6	4	3	8	2	0	147	0.871	126	0.773	0.227	*0.0	*0.0	0.969	0.922	0.483
3A	3	1118	TAFFY	1	4	5A	6	4	0	9	1	147	0.367	54	*2.0	0.963	*0.037	*0.0	0.407	0.333	0.0
3A	2	1137	TIDY	1	1	10	6	3	6	9	9	143	0.944	135	*0.0	0.296	0.704	*0.0	0.852	0.770	0.625
3A	9	1141	TINGE	1	4	6	4	1	6	4	0	147	0.296	42	0.810	0.190	*0.0	*0.0	0.574	0.286	0.250
3A	8	1150	TOUR	1	3	7	4	1	8	2	0	147	0.912	134	0.828	0.172	*0.0	*0.0	0.784	0.657	0.534
3C	9	1154	TRANCE	1	2	7	4	1	2	9	0	138	0.775	107	0.981	*0.019	*0.0	*0.0	0.551	0.449	0.146
3A	19	1192	UPSET	2	1	5A	7	1	1	3	6	147	0.877	123	*0.057	0.260	0.683	*0.0	0.959	0.935	0.713
3C	20	1208	VOLUNTEER	2	3	7	4	1	1	9	0	138	0.862	119	0.294	0.479	0.227	*0.0	0.574	0.849	0.891
3A	19	1210	VULGAR	1	4	5R	5	1	1	0	9	143	0.695	99	*0.0	*0.0	1.000	*0.0	0.633	0.592	0.0
3A	26	1253	ZERO	1	2	5A	4	3	2	-1	0	143	0.904	115	0.304	*0.087	0.609	*0.0	0.852	0.748	0.570

A [ambiguous], and C [capitalized]. Nevertheless, responses coded as A or
C were relatively infrequent; the code C occurred with significant frequencies
(ten or greater) only for the following words: TOTAL, MISS, ROYAL, REVEREND,
LINK, BUFFALO, PIKE, DIAL, HONEYCOMB, and NORTHEAST.

It would not be particularly rewarding to study the variation in percentages
of valid responses as a function of Thorndike frequency-rank indices because
these indices are relatively homogeneous within levels. It is useful, however,
to examine this variation in relation to Dale ratings. A summarization of
relevant data is given in Table 4.4, where it will be seen that median
proportions of valid responses tend to be highly related to the Dale ratings.
Nevertheless, the proportions for given values of Dale ratings vary widely.
It may be concluded that the Dale ratings give only limited indication as to
whether children at a given grade will be successful, on the average, in
using a given word in a sentence.

Because the same words (in Level 2 forms) were given to samples at both
grades 6 and 9, it is possible to study the relationship between the proportions
of valid responses for these words at these grade levels. The Pearsonian
correlation between these sets of proportions is .63; however, the scatterplot
(Figure 4.1) of the points reveals a most peculiar form of relationship.
The majority of the points are in the upper right quadrant and are not very
far from the line of equivalence; the deviations can be taken to represent
largely sampling error. A few words with relatively high proportions of
valid responses at grade 6 actually show a considerable decrement at the 9th
grade: FIST, HUT, RICE, MOTOR, DRUNK. The words AFFECT, TRIUMPH, REVEREND,
and ROVE show low proportions at both grade levels. On the other hand, a
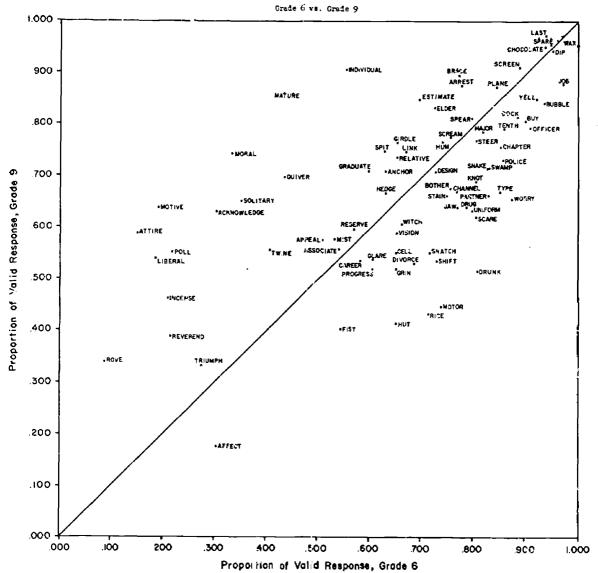considerable number of words shows very substantial (and statistically significant,

e 1% level) increases in proportions of valid responses over the two

Table 4.4

Median and Ranges of Proportions of Valid Responses Classified by Dale Ratings, with Words at Lower Extremes (L), at or near Median (Mdn), and Upper Extremes (U)

Dale Rating	Level 1 Grade 3 n*	L	Mdn	U	Level 2 Grade 6 n	L	Mdn	U	Grade 9 L	Mdn	U	Level 3 Grade 2 n	L	Mdn	U
1	60	.127 PATIENT	.451 PICK	.863 JUMP	37	.543 FIST	.804 DRUNK	1.000 WAX	.402 FIST	.745 SPIT	.971 LAST	12	.420 PATTER	.831 UPSET	.949 CLOWN
2	5	.092 COMMAND	.265 INTEREST	.735 BROKE	5	.627 ANCHOR	.714 SNATCH	.858 TENTH	.520 GRIN	.706 ANCHOR	.877 ARREST	12	.721 GROW.	.822 ITCH	.951 DIZZY
3	13	.010 PROMPT	.167 DISEASE	.337 BALANCE	24	.087 ROVE	.615 HEDGE	.851 CHAPTER	.175 AFFECT	.624 STAIN	.906 INDIVIDUAL	23	.490 CROUCH	.810 COMMENT	.944 OFFICIAL
4	2	.059 EFFECT	.078 —	.098 ISSUE	12	.188 MOTIVE	.340 SOLITARY	.242 SPARE	.387 REVEREND	.628 MOTIVE	.953 SPARE	15	.280 PIKE	.681 PROPOSITION	.874 STRUCTURE
5	—	—	—	—	1	—	.183 LIBERAL	—	—	.539 LIBERAL	—	8	.361 BUSTLE	.651 MELLOW	.813 PRIMARY
6	1	—	.039 RENDER	—	1	—	.149 ATTIRE	—	—	.585 ATTIRE	—	4	.168 PENITENT	.441 ANIMATE	.874 FOIL
7	—	—	—	—	1	—	.667 LINK	—	—	.745 LINK	—	4	.095 EXPEDIENT	.532 PENSION	.891 AGED
All	81	.010 PROMPT	.367 SEASON	.863 JUMP	81	.087 ROVE	.722 ELDER	1.000 WAX	.175 AFFECT	.670 CHANNEL	.971 LAST	78	.095 EXPEDIENT	.768 PROJECT	.951 DIZZY

*n = number of words

Figure 4.1

Scatterplot for Proportions of Valid Responses, Level 2 Words,

Grade 6 vs. Grade 9

grade levels: INDIVIDUAL, MATURE, QUIVER, MORAL, SOLITARY, ACKNOWLEDGE,

MOTIVE, ATTIRE, POLL, LIBERAL, INCENSE, REVEREND, and ROVE. This suggests

that most of the words that caused trouble at the 6th grade were much better

known by the 9th grade students.

Empirical data on part-of-speech use, "first sentence written"

In Table 4.3, the columns headed P(N), P(V), P(A), and P(OT) show,

respectively, the proportions with which each word was used as a noun,

as a verb, as an adjective, or as some other part of speech in the first

sentence written for the word. In every case, the base for these proportions

is indicated in the column headed BASE N; this is the number of "valid

responses" as defined in the preceding section. (The meaning of the asterisks

attached to some of the proportions will be explained below.)

There were few instances in which the words were used as parts of speech

other than noun, verb, or adjective. The only significant proportions

occur for BETTER (.182) and for NORTHEAST (.255) for use as adverbs.

A certain mathematical transformation of the proportions makes it

possible to represent graphically the relative uses of the words as nouns,

verbs, or adjectives.[1] The resulting plots are shown in Figures 4.2a-d. Words

used solely as nouns, verbs, or adjectives are to be found at the corners of

the spherical triangle; words used in various proportions as either of two

---

[1]First, any proportions for "other" parts of speech are ignored; th
the proportions for N, V, and A are normalized so that they total unity.
Then the square roots of these normalized proportions are computed as
constituting a three-element row vector. The coordinates of the corresponding
point in a unit circle are then found by multiplying this vector by the matrix:

$$\begin{Vmatrix} -\sqrt{.75} & -.5 \\ \sqrt{.75} & -.5 \\ 0 & 1.0 \end{Vmatrix}$$

This transformation produces a perspective projection of a right spherical
triangle onto a plane.

parts of speech are to be found along the sides of the triangle, placed so
as to indicate the relative proportions; words used in some proportion in all
three parts of speech are to be found in the interior of the figure. (All
points are to be considered as being on the surface of a sphere.)

Inspection of these figures makes it possible readily to identify words
that are usually perceived in one part of speech and relatively seldom perceived
in another part of speech, or in fact, to identify words that are about equally
often used in two parts of speech. A word that is used equally often in three
parts of speech would appear in the exact center of the figure; a word that is used
equally often in two parts of speech (but never in a third) would appear on the side
of the figure halfway between the corners representing the two parts of speech.

In the figures, words for which the proportions are based on fewer than
30 cases are enclosed in parentheses.

As expected, the majority of words are of the NV type in terms of children's
use of them in sentences; these words are represented along the bottom side
of each figure. Fewer words are of the NA type, and fewer still are of the
VA or NVA types.

The data suggest that with increasing grade level, words tend to be
used in a greater number of grammatical functions. At grade 3, 20 of the
81 words are used only in a single grammatical function. At grade 6, only
12 of the 81 words in Level 2 forms are used in a single grammatical
function, whereas at grade 9, only 8 of these same words are so used. Of
the 78 words in the Level 3 forms, only 8 are used in a single grammatical
function. Furthermore, there is evidence from the comparison of grade 6 and
grade 9 data at Level 2 that MGF words tend to have a more even distribution
among grammatical functions at the upper grade level. If we consider only
the Level 2 words that occur solely in the same two grammatical functions

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Figure 4.2

Graphical Representation of Relative Proportions With Which Words Were Used as

Nouns, Verbs, or Adjectives in a Sentence Construction Task,

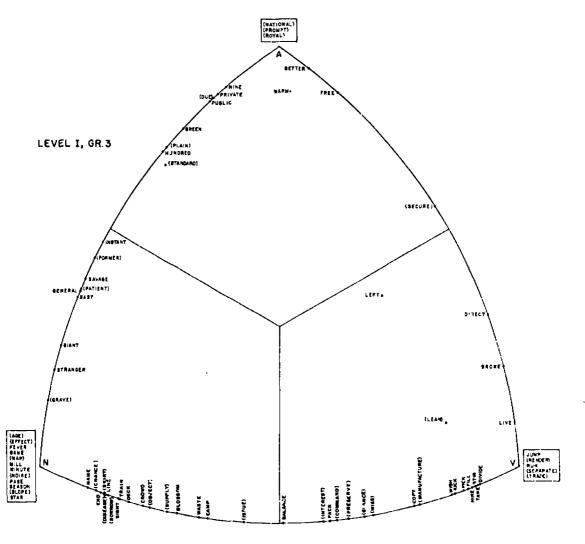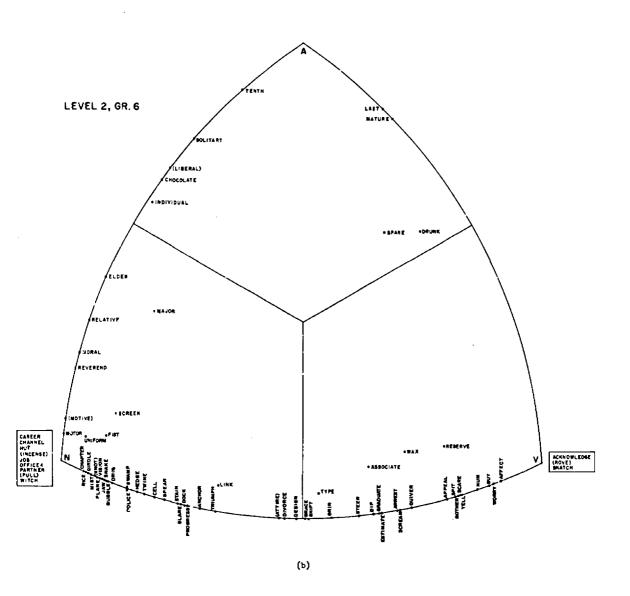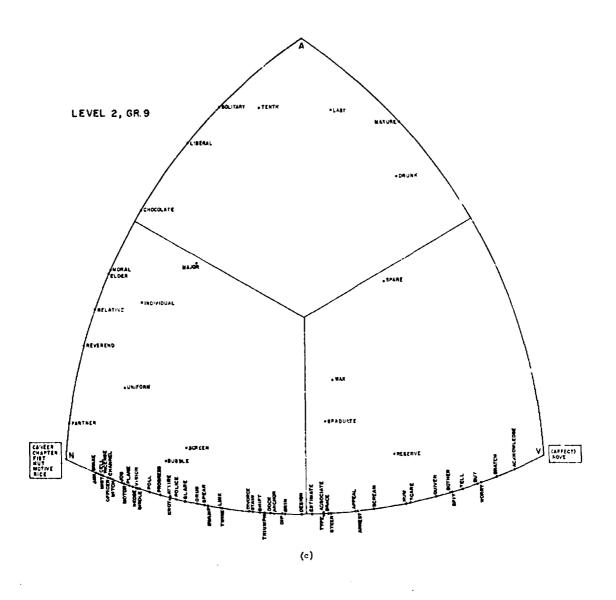at Level 1, Grade 3 (a), Level 2, Grade 6 (b), Level 2, Grade 9 (c), and Level 3, Grade 9 (d).
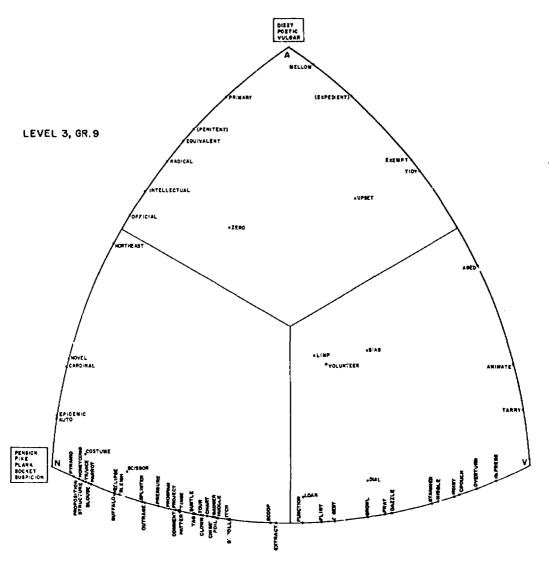

(a)

Figure 4.2 (cont.)

(b)

Figure 4.2 (cont.)

(c)

Figure 4.2 (cont.)

LEVEL 3, GR.9

DIZZY
POETIC
VULGAR

A

MELLOW

PRIMARY

(EXPEDIENT)

(PENITENT)
EQUIVALENT

RADICAL

EXEMPT
TIDY

INTELLECTUAL

UPSET

OFFICIAL

ZERO

NORTHEAST

AGED

NOVEL
CARDINAL

LIMP   BIAS
VOLUNTEER

ANIMATE

EPIDEMIC
AUTO

TARRY

PENSION
PIKE
PLANK
SOCKET
SUSPICION

N

COSTUME

PYRAMID
PROPOSITION
STRUCTURE
PREDICTION
BLONDE TRANCE
MARROT

SCISSOR

BUFFALO
ECLIPSE
PILE-UP

OUTRAGE
SPLINTER

PRESSURE

PROGRAM
COMEDY PROJECT
PATTER TIME

TAD BAFFLE
CLOWN TOUR
CREE CHART
PDIL BRANDY
FONDLE

BULL WITCH

SCOOP

EXTRACT

FUNCTION

LOAR

FLIRT
BODY

DIAL

GOSPEL
SPRAY
DAZZLE

STAMMER
NIMBLE

CRINT
CROUCH
OVERTURN
IMPRESS

V

(d)

at both grades 6 and 9, 44 out of 64 of the differences between the two proportions

are smaller at grade 9 than at grade 6; $p < .001$. That is, the words tend

to approach an even split (.5 - .5) more at grade 9 than at grade 6.

One of the major purposes of this pilot experiment was to identify

"unusual" grammatical functions of words, i.e., the parts of speech in which

words are seldom perceived. A purely statistical approach was taken at this

point. It was decided that an "unusual" grammatical function would be one for

which the true probability of occurrence was .2 or less. On the basis of

sample data, of course, one could only estimate such a true probability

within certain confidence levels. It was further decided, therefore, that

for the purposes of the study, an "unusual" grammatical function would be one

for which there was 95% confidence that the true probability was no greater

than .2 . Wilks (1949, equation 10.18) gives the quadratic equation for the

confidence limits of p for a confidence coefficient α :

$$p^2 (n^2 + nz_\alpha^2) - p (2nX + nz_\alpha^2) + X^2 = 0$$

where   n = the size of the sample,

     p = a confidence limit for the true probability,

     z = the normal deviate corresponding to the confidence coefficient,

     X = the number of "successes."

In the present case we wish to establish that an observed proportion,

p_o, is such that it is equal to or less than that proportion, $\bar{p}$, that yields

an upper confidence limit, p, equal to .2 . Since $\bar{p} = X/n$, we may substitute

$n\bar{p} = X$ in the above equation, and solve for $\bar{p}$ as a function of n and p.

This gives:

$$A\bar{p}^2 + B\bar{p} + C = 0,$$

where $A = n^2$

$B = -n^2 p^2$

$C = p^2 (n^2 + nz_\alpha^2) - npz_\alpha^2$.

Solving for $\bar{p}$, we have:

$$\bar{p} = (-B - \sqrt{B^2 - 4AC}) / 2A.$$

Since we are concerned only with one tail of the distribution, the confidence coefficient $\alpha = .95$ corresponds to $z_\alpha = 1.64$. To see whether an observed proportion has an upper 95% confidence limit no greater than .2, we need only determine whether p_0 is equal to or less than the value of $\bar{p}$ yielded by the above equation.

The asterisks given immediately to the left of proportions in Table 4.3 indicate that the proportion yields an upper confidence limit no greater than .2 at the 95% confidence level. Since the formula takes the base n into account, asterisks do not in general occur for small base n's. Of course, in many instances asterisks occur for proportions equal to zero, but these may often be discounted because the grammatical function in question would not, in fact, ever occur. For example, the empirical proportion for BALANCE as an adjective (Level 1, grade 3) was .000, and in fact we would not expect BALANCE to occur as an adjective. An "unusual" grammatical function would be one that occurs with greater than zero frequency but with an upper confidence limit as specified above. For example, according to our data, BROKE (Level 1, grade 3) was used as an adjective with a proportion of only .111, and according to the criterion specified, this is "unusual"; therefore it receives an asterisk in Table 4.3.

These results concerning "unusual" grammatical functions of words were

employed in selecting words for the main experiment, to be described in

Chapter V.

Comparison of MGF vectors with the empirical "first sentence" data

To determine whether the MGF vectors estimated by methods described in

Chapter II were good estimates of the empirical proportions with which the

words were used in the first sentences written for each word, the highest

MGF vector component for each word was compared with the corresponding

empirical proportion. This analysis, of course, was carried out only for

MGF words; thus, the "highest" MGF vector component was at most 9 .

However, when a value of 9 for one part of speech was accompanied by a value

of "-1" in the MGF vector for another part of speech (denoting a proportion

vanishingly close to zero), it was considered separately, as if it were 9+ .

In case of tied elements of 5 and 5, the corresponding empirical proportion

was always that which corresponded to the first occurrence of 5 in the order

N - V - A. For example, for an MGF vector (0 5 5) the corresponding empirical

proportion was that for the verb. Table 4.5 shows the mean and S. D. of the

empirical proportions for each value of the highest MGF vector component,

for the data at each combination of level and grade. To assure a reasonable

degree of reliability in the empirical proportions, only data for words

validly responded to by at least 20 Ss were included. An analysis of

variance was applied to determine the significance of the relationship. As

may be seen, the relationship was highly significant at each level and grade.

Also, the mean proportions roughly correspond to the MGF values. If the

prediction had been ideal, the mean empirical proportion corresponding, say,

to an MGF value of 6 would be .600, with no variance. The prediction was,

course, far from this ideal case. Inspection of Table 4.3 will reveal

Table 4.5

Means and Standard Deviations of Empirical NVA Proportions (1st Sentence)
Corresponding to Each Value of the Highest MGF Vector Component, for Each
Combination of Level and Grade, with Analysis of Variance Results

Highest MGF Vector Component	Level 1 Grade 3			Level 2 Grade 6			Level 2 Grade 9			Level 3 Grade 9		
	n	$\overline{X}$	σ	n	$\overline{X}$	σ	n	$\overline{X}$	σ	n	$\overline{X}$	σ
4,5	4	.564	.223	9	.441	.378	9	.488	.321	4	.454	.126
6	5	.466	.191	8	.469	.316	8	.424	.179	10	.576	.228
7	11	.856	.073	14	.691	.233	14	.719	.173	10	.709	.230
8	14	.772	.314	12	.783	.219	12	.757	.223	11	.818	.163
9	22	.910	.168	24	.841	.219	23	.809	.176	26	.793	.247
9+	7	.973	.034	13	.863	.278	14	.893	.249	16	.851	.245
Total	63	.820	.243	80	.728	.305	80	.725	.264	77	.752	.252
F	5.934			4.975			7.043			3.345		
$d.f._1$	5			5			5			5		
$d.f._2$	57			74			74			71		
p	$<.001$			$<.001$			$<.001$			$<.01$		
η	.585			.502			.568			.437		

many cases where the empirical "first sentence" proportions are quite different
from those that would be estimated from the MGF vectors.

Among words expected to be most frequently used as nouns, the following
were more often used as verbs: COPY, GLANCE, TRADE, ARREST, RESERVE, SHIFT,
BIAS, DIAL, FRAY, LOAN, and VOLUNTEER. More often used as adjectives were
STANDARD, CHOCOLATE, INDIVIDUAL, EXPEDIENT, and ZERO.

Among words expected to be most frequently used as verbs, the following
were more often used as nouns: INCENSE, LINK, STAIN, CHISEL, FOIL, HUDDLE,
SCOOP, and STROLL. More often used as adjectives were SECURE, MATURE, and
SPARE.

Among words expected to be most frequently used as adjectives, the
following were more often used as nouns: GENERAL, SAVAGE, TOTAL, ELDER,
MORAL, and NORTHEAST. More often used as verbs were SEPARATE, GRADUATE, and
LIMP.

As was pointed out in Chapter II, the MGF vectors were estimated on the
basis of very meager frequency data. Furthermore, these frequency data,
limited as they are, were mainly derived from adult literature. Nevertheless,
the MGF vectors may very well be valid as estimates of frequency in adult
literature. They should not necessarily be expected to agree with the
normative data collected here on children's grammatical perceptions, which we
may assume are a function of the frequencies with which the various parts
of speech occur in children's experience, either in spoken or written language,
or both. We have no satisfactory way of estimating such frequencies directly.
Possibly the present normative data can be considered indirect estimates of
the frequencies, if one accepts the "spew hypothesis" advanced by Underwood
and Schulz (1960, p. 86) to the effect that "the order of availability of
verbal units is directly related to the frequency with which the units have
been experienced." In any case, the present normative data are believed to

be useful as direct indications of children's grammatical perceptions of
words presented in isolation.

It should be noted that the relations between the MGF vectors and the
empirical proportions are approximately of the same magnitude at each level
and grade. Thus, there is in general no evidence that the results obtained
at the higher grades approach those predicted by the MGF vectors more
closely than at the lower grades. Through the comparison of proportions for
Level 2 words at grades 6 and 9, one can find a few isolated cases in which
the grade 9 proportions seem to approximate the MGF vector predictions more
closely than the grade 6 proportions do. For example, at grade 6 only 38.5%
used INDIVIDUAL (MGF vector 7 0 3) as a noun, whereas at grade 9 the percentage
was .677 . Similarly, MORAL (MGF vector 1 0 9) was used as an adjective at
grade 6 by only 13.0% but at grade 9 by 33.3% . For these words, the results
suggest that older children are more likely to use them in "adult" grammatical
functions.

Reliability of the empirical MGF proportions

The reliability of the empirical MGF proportions presented in Table 4.3
is to some extent a function of the numbers of cases on which they are based.
For some words, especially at the lower grades, the N's on which the propor-
tions are based are relatively small due to the fact that large numbers of
respondents failed to give valid responses to these words. The reliability of
the data is also a function of the unknown extent to which the samples are
representative of the populations (grades 3, 6, and 9 school-children in the
U. S.) which they were supposed to represent.

The available data permit the use of two methods of further assessing
their reliability: (1) comparisons of data from different grades, and (2)
comparison with data obtained on certain words in the pilot study.

Comparison of data between grades is possible only for words in the
Level 2 forms.   For each of these 81 words, the highest proportion in
the empirical MGF vector at grade 6 was compared with the corresponding
proportion at grade 9 by means of a chi-squared test with 1 d. f.   One
would expect, by chance, about 4 of these comparisons to be significant at
the 5% level; actually, 23 of them were.   Also, by chance only about one
comparison would be significant at the 1% level; actually, 15 of them were.
For present purposes, it is probably wise to use the 1% significance level as
a criterion for selecting words with probable true differences.   On this
basis, 64 of the 81 comparisons may be regarded as not significant; this
result seems to testify to the general stability of the data across grades.
The 15 words for which differences were significant at the 1% level are as
follows: APPEAL, ATTIRE, CHANNEL, DIP, DOCK, DRUG, ESTIMATE, RADUATE, HUM,
INDIVIDUAL, KNOT, STAIN, SWAMP, UNIFORM, and WAX.   The relevant data may be
found in Table 4.3.   In general, the differences are in the direction of
less concentration on a given part of speech in grade 9 than in grade 6.

A similar series of tests of significance was then carried out for the
36 words that were common to the pilot study and the present normative study.
For the 9 words at Level 1 (Level I of the pilot study), comparisons were made
both at grade 3 and at grade 6 (using data that are not presented in Table 4.3
because of small N's).   Only one of these words, INSTANT, showed a difference
significant at the 1% level; the empirical MGF proportions were (.478, .0,
.522; N=67) for the pilot experiment and (.857, .0, .143; N=14) for the
normative study data.   For the 9 words at Level 2 (Level II of the pilot
study), comparisons were possible for both grades 6 and 9.   Four words, DIP,
INDIVIDUAL, SCREEN, and WAX, showed significant differences at grade 6,
and SCREEN and WAX also showed significant differences at grade 9.   (The
relevant data may be found in Tables 3.5 and 4.3.)   It is possible, however,

that these differences may be partly due to changes in coding practices
between the two studies, particularly in the case of SCREEN, which, when
used as an attributive adjective as in screen door, may have been more often
coded as a noun in the normative study than in the pilot study.

For the 18 words at Level 3 (Levels III and IV in the pilot study),
comparisons were possible only for grade 9. Of these words, only 3 showed
significant differences: ANIMATE, CARDINAL, and RADICAL. Again, the
relevant proportions may be found in Tables 3.5 and 4.3 .

To conclude: while small numbers of words showed significant differences
either between grades or between studies, the majority of words yielded MGF
proportions that are reasonably stable between grades and between studies.

Incidence of second sentences and of changes of grammatical function in the
second sentences written for each word

The last three columns of Table 4.3 give three proportions for each word:

P(2): Probability of writing a second sentence, whether "valid"
or not. The base of this proportion is BASF N.

P(VAL. 2ND R): Probability of writing a valid second sentence, i.e.,
with a legitimate part of speech for the word. Again, the base of
this proportion is BASE N.

P(GRAM. CHANGE): The probability that, if a valid second sentence
was written, it contained the word in a part of speech other than
that in which it was used in the first sentence written. The
base for this proportion is the number of valid second responses
[=(BASE N)* (P(VAL. 2ND R))].

These values permit one to study the degree to which there was a tendency
to write a second sentence for a word and to use the word in a different part
speech in such a sentence. It will be recalled that the instructions for

this test asked the respondents to write "the first sentence that you think of" and then "another sentence using the word in a different way." It was hoped that these instructions would often dispose the respondent to use the word in a different part of speech. Of course, many words were semantically ambiguous and could be used "in a different way" even without a change in grammatical function. In any case, it was believed that the extent to which "second sentences" were written with a change of grammatical function would indicate the extent to which the respondents were familiar with the multiple grammatical functions of the words.

Close examination of all the data suggested that it would be useful to derive a new variable, labelled T(PMA), namely, an arc sine transformation of the largest value in the empirical MGF vector for the first sentence written. This derivation suggested itself because it was noted that the words exhibiting the largest amount of grammatical change in the second sentence written tended to be words with relatively "balanced" empirical MGF vectors. That is, these were the words in which the proportions with which two grammatical functions were used approached .5 (or .333, for the case of NVA words with three grammatical functions). Conversely, words which tended to be used in a single grammatical function in the first sentence written, over the sample of responses, tended to be words for which the probability of grammatical change in the second sentence was low. The magnitude of the largest element in the empirical MGF vector for the first sentence written was taken as an inverse index of the "balance" of the vector. For example, at Level 2, grade 6, the word SPARE has a relatively "balanced" MGF vector (.068, .361, .571) for the first sentence written and it was used in a different part of speech in 64.1% of the valid second sentences written, whereas the word CHANNEL had an "unbalanced" empirical MGF vector (1.000, .0, .0) and was never used in a different part of speech

in a second valid sentence, even though 82.4% of the respondents wrote
"valid" second sentences. The largest element of the empirical MGF vector
was given the designation PMA (e.g., .571 for SPARE and 1.000 for CHANNEL).
The arc sine transformation (2 arc sine $\sqrt{PMA}$) was used because scatterplots
of the joint distribution of PMA and P(GRAM. CHANGE) suggested that such a
transformation would much improve the linearity of the relationship.

Table 4.6 shows the correlations, over words with BASE N equal to 20 or
greater, of the variables P(TOT), T(PMA), P(VALID 2ND R), and P(GRAM. CHANGE).
It also shows the means and standard deviations of these variables as they
distribute over the words, and the beta weights (β) and shrunken multiple
correlations ($\bar{R}$) in the prediction of P(GRAM. CHANGE) from the other three
variables.

First let it be observed that these four variables are experimentally
independent in the sense that there are no constraints against their having
zero correlations. The three proportions are based on different N's, and
T(PMA) can vary independently of any of these N's.

It may then be noted, from Table 4.6, that:

(a) There is a marked rise ($F_{2,\ 217} = 28.92$, $p < .001$) in mean P(TOT)
over levels (and grades), particularly from Level 1 to Level 2. (The data
for Level 2, grade 9 were excluded from this analysis because they are
correlated with those from Level 2, grade 6. The nature of the data
automatically results in a confounding of level and grade.) The result,
of course, applies to the first sentence written and merely underlines the
conclusion derived from Table 4.2, with the minor difference that the results
here were derived only from words for which BASE N is 20 or greater.

(b) There is a slight decline ($F_{2,\ 217} = 3.47$, $p < .05$) in mean T(PMA).
That is, the "balance" of the empirical vectors tends to increase with level
(and presumably also with grade). (A t-test for correlated means for Level 2,
grade 6 vs. 9 shows the difference to be significant, $p < .001$)

Table 4.6

Correlational Analysis of Four Variables Pertaining to
Use of Different Grammatical Functions in First and
Second Sentences Written for a Word*

	Level and Grade	P(TOT)	T(PMA)	P(VALID 2ND R)	P(GRAM. CHANGE)	β
P(TOT)	1 - 3	1.000	.049	.730	-.081	-.225
	2 - 6	1.000	-.017	.786	.184	.069
	2 - 9	1.000	-.367	.506	.300	-.084
	3 - 9	1.000	-.138	.754	.275	.125
T(PMA)	1 - 3	.049	1.000	.004	-.718	-.708***
	2 - 6	-.017	1.000	-.311	-.861	-.820***
	2 - 9	-.367	1.000	-.614	-.887	-.814***
	3 - 9	-.138	1.000	-.400	-.872	-.836***
P(VALID 2ND R)	1 - 3	.730	.004	1.000	.078	.245
	2 - 6	.786	-.311	1.000	.438	.128
	2 - 9	.506	-.614	1.000	.625	.168*
	3 - 9	.754	-.400	1.000	.474	.045
Means	1 - 3	.470	2.560	.615	.164	n 63
	2 - 6	.670	2.449	.656	.280	80
	2 - 9	.680	2.31?	.654	.448	80
	3 - 9	.716	2.550	.628	.415	77
S.D.'s	1 - 3	.195	.448	.121	.151	R̄ .734
	2 - 6	.214	.468	.151	.205	.879
	2 - 9	.154	.477	.172	.253	.894
	3 - 9	.184	.478	.174	.248	.884

*Symbols:

P(TOT): Proportion of valid first sentence responses, based on total N, where N is the number of respondents.

T(PMA): Arc sine transformation of the largest element in the empirical MGF vector, and inverse index of the "balance" of the vector, or its distribution over parts of speech.

P(VALID 2ND R): Probability of a valid 2nd sentence, based on (BASE N) = N * P(TOT).

P(GRAM. CHANGE): Probability of a grammatical change in word function in the 2nd sentence written, based on (BASE N) * P(VALID 2ND R).

β: Beta weight of variable in prediction of P(GRAM. CHANGE) from the other three variables.

n: Number of words on which calculations are based.

R̄: "Shrunken" multiple correlation for prediction of P(GRAM. CHANGE) from the three other variables.

In the body of the table, *** means $p \leq .001$; * means $p \leq .05$.

(c) Mean P(VALID 2ND R) is quite stable over levels ($F_{2, 217} = 1.37$ n.s.), the overall mean being .634 with nonsignificant variation over levels. (The grade 6 vs. grade 9 difference is nonsignificant.)

(d) There is a marked rise in P(GRAM. CHANGE) over levels ($F_{2, 217} = 25.12$, p <.001). Presumably this also applies over grades; the Level 2, grade 6 vs. 9 difference is highly significant, p <.001. It is reasonable to infer that the tendency to change grammatical function in a second sentence increases over grades.

(e) From the correlational analysis, it appears that the difficulty of a word, as indexed by P(TOT), is not significantly related to its tendency to elicit a changed grammatical function in the second-sentence data.

(f) A large proportion of the variance of P(GRAM. CHANGE) is associated with T(PMA), with highly significant correlations and beta weights. That is, for words at a given level and grade, as the "balance" of the MGF vector increases, there is an associated tendency for the respondents to use the word in a different part of speech in the second sentence written. Such a result might have been expected, for as the "balance" of the first sentence MGF vector increases, i.e., as the probabilities for the different parts of speech in the first sentence become more equal, the respondents are more likely to be familiar with different grammatical functions of the words and hence to change grammatical functions when they write a second sentence illustrating a "different" use of the word.

(g) The tendency to write a valid second sentence is positively correlated with the tendency to change a word's grammatical function in so doing, particularly at the higher grades, but this tendency makes a significant (p <.05) independent contribution to the prediction of P(GRAM. CHANGE) over and above the prediction from T(PMA) only for one set of data--that for Level 2, grade 9.

From the results discussed thus far, we may conclude that the tendency
to change grammatical function is chiefly associated with whether the word
is known in different parts of speech by the group. There is, however,
another factor to be considered--the polysemy (multiple meaning) of a word.
The variation in P(GRAM. CHANGE) was thought to be possibly associated with
the semantic coding (SM) of the word as explained in Chapter II. It will
be recalled that a code of 1 was assigned to an MGF word when it contained
one and only one basic meaning (e.g., the meaning of FILL as a noun and as a
verb) throughout the two or three grammatical functions in which it might
be used. Codes 2, 3, or 4 were assigned when polysemy was associated, in
one of several possible ways, with changes in grammatical function. It
might be reasoned that respondents would be more likely to use a word in a
different grammatical function in their second sentences when the semantic
code was 2, 3, or 4 than when it was 1, because they might regard a "different
way" of using the word as one having to do with a different sense of the word.
To investigate this possibility, the mean values of P(GRAM. CHANGE) were
determined for each value of the semantic classification and analyses of
variance were done to study the significance of variation in these means.
The results are shown in Table 4.7. Because there were relatively few words
in semantic code classifications 2 and 4, for the analyses of variance the
data for these words were pooled with those for words with code 3. Further,
the analyses were restricted to words for which BASE N (number of valid
first sentences) was 20 or greater, in order to insure reasonable reliability
in the basic data. The differences between words in semantic code 1 and words
in semantic codes 2, 3, and 4 combined are all in the expected direction, but
they are highly significant only at Level 2, grade 6, tapering off to non-
significance at Level 3, grade 9. These results suggest that polysemy is a
significant factor in the use of grammatical change in second-sentence writing

Table 4.7

Analysis of P(GRAM. CHANGE) by Semantic Code

Semantic Code	Level 1 Grade 3		Level 2 Grade 6		Level 2 Grade 9		Level 3 Grade 9	
	n	$\bar{X}$	n	$\bar{X}$	n	$\bar{X}$	n	$\bar{X}$
1	42	.139	58	.243	58	.406	60	.408
2	1	.103	2	.495	2	.659	1	.500
3	11	.193	17	.365	17	.520	11	.420
4	9	.252	3	.388	3	.721	5	.471
2, 3, 4 Combined	21	.214	22	.380	22	.560	17	.440
Total	63	.164	80	.280	80	.448	77	.415
F	3.545		7.707		6.291		0.247	
$d.f._1$	1		1		1		1	
$d.f._2$	61		78		78		75	
p	$<.10$		$<.01$		$<.025$		n.s.	

(as defined in this experiment) only at grade 6. A possible interpretation of these results is that at grade 3 respondents are seldom aware of alternative senses of words, but that at grade 6 they become more aware of them. By grade 9, students are often aware not only of polysemy but also of polysyntagmy (multiple grammatical function) even when polysemy is minimal. Polysemy is, however, an influential factor for grade 9 students only for the less difficult words, i.e., those in the Level 2 forms.

This interpretation is supported by similar analyses of P(TOT), T(PMA), and P(VALID 2ND R), shown in Table 4.8. Only at Level 2, grade 9 are polysemic words successfully used in the first sentence written significantly more often than nonpolysemic words. At Level 2, for both grade 6 and grade 9, polysemic words are significantly more often used in valid second sentences than the nonpolysemic words, but the differences are not significant for words in Level 3 forms.

Table 4.8

Means of Three Variables by Semantic Code Classifications
with Analysis of Variance Significance Tests

	Semantic Codes	P(TOT)	T(PMA)	P(VALID 2ND RESPONSE)
Level 1, Gr. 3	1	.492	2.635	.627
	2,3,4	.428	2.412	.592
	$F_{1,61}$	1.47	3.55	1.13
	p	n.s.	n.s.	n.s.
Level 2, Gr. 6	1	.647	2.508	.630
	2,3,4	.734	2.294	.726
	$F_{1,78}$	2.68	3.34	6.87
	p	n.s.	n.s.	<.025
Level 2, Gr. 9	1	.650	2.383	.608
	2,3,4	.759	2.140	.777
	$F_{1,78}$	8.71	4.16	18.55
	p	<.01	<.05	<.001
Level 3, Gr. 9	1	.731	2.380	.625
	2,3,4	.660	2.251	.640
	$F_{1,75}$	2.03	< 1	< 1
	p	n.s.	n.s.	n.s.

Chapter V

Children's Comprehension of MGF Words

Introduction

With the compilation of the data on children's grammatical responses

to MGF words reported in Chapter IV, it became possible to undertake the

study which had been the principal goal of this project, namely, a study

to compare children's comprehension of words used in their "usual" or

"most potent" grammatical functions with their comprehension of these

same words when used in "unusual" or "less potent" grammatical functions.

It was believed that, at least at the lower grades, children would comprehend

MGF words less well in their less common grammatical functions than in

their more common grammatical functions.

This chapter describes the design and outcomes of the large-scale

study that was performed to obtain data bearing on this question.

Selection of words to be included in the test instruments

Since this study had the objective of seeing how well children

comprehend unusual grammatical uses of words, it was necessary to sel-

a list of words for which at least one grammatical usage had a low

probability in the normative data collected in the earlier phases of t...

study. As described in Chapter IV, statistical procedures were applie

to identify grammatical functions of words such that the true probabilities

of those grammatical functions, as reflected in the first sentence written

in response to a word, would be less than .2 at the 95% confidence level.

These functions are identified by asterisks in Table 4.3; however, the

asterisks printed next to zero or near zero probabilities for "illegitimate"

grammatical uses of the words are to be discounted.

The overall design of the study and practical considerations in the
construction of the instruments to be used for testing comprehension
permitted the use of only a relatively small sample of MGF words--to be
exact, 21 words at each of thre. levels of difficulty in terms of Thorndike
rank-frequency indices.

If words had been selected solely on the criterion that the normative
data showed estimated true probabilities of "unusual" grammatical functions
to be less than .2, it would have been possible to select a total of 132
words (55%) of the 240 MGF words in the normative data: 46 (57%) of the
81 words at Level 1, 49 (60%) of the 81 words at Level 2, and 37 (47%) of
the 78 words at Level 3. These results are based on the use of grade 3
normative data for Level 1 words, grade 6 normative data for Level 2 words,
and grade 9 normative data for Level 3 words. (Generally, the normative
data from grade 6 for Level 1 words, though meager, and the voluminous data
from grade 9 for Level 2 words confirm these results.)

Various other considerations were used in the final selection of 21
words at each level. Some of the "unusual" grammatical usages that were
identified by the statistical criterion were extremely rare or archaic (e.g.,
ACKNOWLEDGE as a noun) and it was judged that children would not be expected
to know these usages. On the other hand, some usages, though unusual in
the grammatical perceptions of the children, were judged to be so common
in actual frequency that they would be well within children's comprehension,
e.g., JUMP as a noun. Some examples of such "unusual" but "common" usages
were included in the selected words, however, e.g., END, FREE, and NAME
as verbs. One other consideration in the selection of words was that the
final sample should include examples of words in various "semantic codes"
(as described in Chapter II), i.e., both words in semantic code "1" where
the same one basic meaning was present in two or more grammatical functions,

and words in semantic codes "2," "3," and "4" exhibiting various types of polysemy across grammatical functions.

The 63 words finally selected for the study are shown in Table 5.1 along with various other information concerning them.

As a matter of record, we list the words that might have been selected but were not, for various reasons. In the following lists, the "unusual" grammatical functions are indicated; the corresponding proportions from the normative data may be found in Table 4.3:

Level 1: BABY (v.), DECK (v.), DIVIDE (n.), FEVER (v.), BETTER (v.), HIRE (n.), JUMP (n.), KICK (n.), LEFT (n.), MAP (v.), MINUTE (adj.), NATIONAL (n.), NINE (n.), NOISE (v.), PICK (n.), PUBLIC (n.), ROYAL (n.), RUN (n.), SEPARATE (adj.), SLOPE (v.), STAR (v.), STIR (n.), TOTAL (v.), TRADE (n.), WARM (v.).

Level 2: ACKNOWLEDGE (n.), AFFECT (n.), ASSOCIATE (adj.), CAREER (v.), CELL (v.), CHAPTER (v.), DRUNK (n.), FIST (v.), GIRDLE (v.), GRADUATE (adj.), HUT (v.), JAW (v.), JOB (v.), LAST (v.), MAJOR (v.), MIST (v.), MOTIVE (adj.), OFFICER (v.), PARTNER (v.), RESERVE (n., adj.), RICE (v.), ROVE (n.), SCREEN (v., adj.), SNATCH (n.), SPIT (n.), TENTH (n.), UNIFORM (adj.).

Level 3: CARDINAL (adj.), COSTUME (v.), CROUCH (n.), DIZZY (v.), EXPEDIENT (n.), HONEYCOMB (v.), PIKE (v.), PROPOSITION (v.), PYRAMID (v.), SCISSOR (v.), SOCKET (v.), SUSPICION (v.), TRANCE (v.), UPSET (n.), VULGAR (n.), ZERO (v.).

Construction and design of instruments for testing comprehension of MGF words

In the original project plan, four types of instruments for testing children's comprehension of MGF words were proposed:

(1) Multiple-choice vocabulary tests. Children would be presented with words in context, some exhibiting frequent grammatical functions, others exhibiting infrequent grammatical functions, and asked to identify the

TABLE 5.1

WORDS USED IN TEST FORMS

LEVEL 1

										SENTENCE EVALUATION				HEADLINES		
WD#	WORD	S	D	TH	GC	SMCO	N	V	A	ITEM#	FM.A	FM.B	FM.C	ITEM#	FM.A	FM.B
36	AGE	3	1	1B	4	1	9	1	0	2	H-N	A-*	L-V	17	H-N	L-V
167	BROKE	2	2	2B	6	1	0	9	1	9	H-V	A-*	L-A	6	L-A	H-V
205	CHANCE	3	1	1B	7	1	8	1	1	7	L-V	H-N	A-*	1	H-N	L-V
359	END	3	1	1A	4	1	8	2	0	14	H-N	L-*	L-V	10	L-V	H-N
405	FILL	3	1	1A	4	1	-1	9	0	3	A-*	H-V	L-N	18	H-V	L-N
437	FREE	2	1	1A	6	1	0	1	9	6	H-A	L-V	A-*	21	H-A	L-V
445	GAME	2	1	1B	5	3	9	0	1	4	L-A	H-N	A-*	19	L-A	H-N
456	GRAVE	2	1	2A	5	4	8	0	2	13	L-A	A-*	X-N	5	H-N	L-A
623	LINE	2	1	1A	4	3	9	1	0	8	A-*	L-V	H-N	11	H-N	L-V
615	LIVE	1	1	1A	6	1	0	9	1	11	A-*	H-V	L-A	3	H-V	H-N
689	MILL	1	1	1B	4	1	9	1	0	17	A-*	L-V	H-N	7	L-V	L-V
723	NAME	3	1	1A	4	1	8	2	0	19	L-V	H-N	A-*	9	L-Y	H-N
783	PAGE	1	1	1B	4	2	9	-1	0	18	H-N	L-Y	A-*	8	H-N	L-V
876	PRIVATE	2	3	2A	5	4	1	0	9	10	A-*	H-A	L-N	2	L-N	H-A
975	SEASON	1	1	1B	4	3	9	1	0	12	H-N	L-V	A-*	4	L-V	H-N
1015	SIGHT	1	1	1A	4	1	9	1	0	20	L-V	A-*	H-N	15	H-N	L-V
1023	SKIRT	1	1	2A	4	1	9	3	0	15	L-V	A-*	H-N	12	H-N	L-V
1084	STRANGER	1	1	2B	5	1	-1	0	-1	5	A-*	L-A	A-*	20	L-A	H-N
1116	TAKE	1	1	1A	4	1	-1	9	0	1	L-N	H-V	A-*	16	L-N	H-V
1153	TRAIN	2	1	1A	4	4	7	3	0	16	A-*	L-V	H-N	14	L-?	H-N
1235	WISH	3	1	1A	4	1	2	8	0	21	H-V	A-*	L-N	13	H-V	L-N

Key: (See Chapter II for Details)

S: Sample
D: Dale Rating
TH: Thorndike Rank-Frequency Index
GC: Grammatical Code
SMCO: Semantic Code
N, V, A: MGF Vector

Designations under Sentence Evaluation and Headlines are H, L, A (High, Low, Anomalous), N, V, A, * (Noun, Verb, Adjective, Anomalous). Thus, H-N signifies that the word is in "high frequency" usage as a Noun; A-* signifies that the word is used anomalously.

TABLE 5.1 (CONTINUED)

WORDS USED IN TEST FORMS

LEVEL 2

WD#	WORD	S	D	TH	GC	SMCO	N	V	A	SENTENCE EVALUATION				HEADLINES		
										ITEM#	FM.A	FM.B	FM.C	ITEM#	FM.A	FM.B
67	APPEAL	2	3	3A	4	1	5	5	0	5	L-N	A-*	H-N	18	H-V	L-N
162	BOTHER	2	1	4A	4	1	1	9	0	13	H-V	L-N	A-*	5	H-V	L-N
175	BUBBLE	1	1	3A	4	1	7	3	0	16	L-V	A-*	H-N	21	L-V	H-N
182	BUY	2	1	3A	4	1	1	9	0	20	H-V	L-N	A-*	12	H-V	L-N
207	CHANNEL	1	3	3B	4	1	9	1	0	2	L-V	H-N	A-*	15	H-N	L-V
340	DRUG	2	1	3B	4	1	9	1	0	18	A-*	H-N	L-V	10	L-V	H-N
491	HEDGE	1	3	3A	4	2	9	1	0	12	H-N	A-*	L-V	4	L-V	H-N
511	HUM	1	1	3B	4	1	4	6	0	6	A-*	L-N	H-V	19	L-N	H-V
534	INCENSE	1	4	4A	4	3	5	5	0	1	H-N	L-V	A-*	14	H-N	L-V
577	KNOT	1	1	3B	4	3	7	3	0	3	A-*	H-N	L-V	16	L-V	H-N
713	MOTOR	1	1	4A	4	1	8	2	0	17	H-N	A-*	L-V	9	H-N	L-V
327	PLANE	2	1	4B	4	3	9	1	0	9	L-V	H-N	A-*	8	H-N	L-V
844	POLL	1	4	4B	4	1	8	2	0	14	A-*	H-N	L-V	6	H-N	L-V
939	POLICE	2	1	4A	4	1	9	1	0	19	A-*	L-V	H-N	11	L-V	H-N
967	SCARE	2	1	3A	4	1	1	9	0	7	L-N	A-*	H-V	1	H-V	L-N
1033	SNAKE	2	1	3B	4	1	9	-1	0	11	A-*	L-V	H-N	3	H-N	L-V
1053	SPEAR	2	1	3A	4	1	8	2	0	15	L-V	H-N	A-*	20	H-N	L-V
1111	SWAMP	1	1	4A	4	3	9	1	0	8	A-*	L-V	H-N	7	L-V	H-N
1171	TWINE	1	3	4A	4	1	4	6	0	4	L-V	A-*	H-N	17	L-V	H-N
1244	WORRY	2	1	3B	4	1	2	8	0	10	H-V	L-N	A-*	2	L-N	H-V
1250	YELL	1	1	4A	4	1	2	8	0	21	A-*	L-N	L-N	13	L-N	H-V

TABLE 5.1 (CONTINUED)

WORDS USED IN TEST FORMS

LEVEL 3

										SENTENCE EVALUATION				HEADLINES		
WD#	WORD	S	D	TH	GC	SMCO	N	V	A	ITEM#	FM.A	FM.B	FM.C	ITEM#	FM.A	FM.B
60	ANIMATE	1	6	6	6	1	0	9	1	4	A-*	L-A	H-V	11	H-V	L-A
151	BLOUSE	1	2	7	4	1	9	-1	0	15	H-N	A-*	L-V	21	L-V	H-N
176	BUFFALO	2	1	6	4	1	9	-1	0	14	H-N	L-V	A-*	16	H-N	L-V
347	ECLIPSE	1	3	6	5	1	8	2	0	2	H-N	A-*	L-V	9	H-N	L-V
367	EPIDEMIC	1	4	8	5	1	8	0	2	6	L-A	H-N	A-*	17	H-N	L-A
502	HOIST	1	4	7	4	1	2	8	0	16	H-V	A-*	L-N	5	L-N	H-V
530	IMPRESS	2	3	5A	6	1	1	9	0	17	L-N	H-V	A-*	6	H-V	L-N
678	MELLOW	1	5	5A	6	1	3	1	9	12	A-*	L-V	H-A	14	L-V	H-A
735	NIBBLE	1	1	6	6	1	3	7	0	20	L-N	A-*	H-V	19	H-V	L-N
746	NOVEL	1	3	5A	5	4	8	0	2	7	H-N	A-*	L-A	1	L-A	H-N
775	OUTRAGE	1	5	6	4	1	7	3	0	19	H-N	A-*	L-V	18	L-V	H-N
777	OVERTURN	1	1	5A	4	1	1	9	0	9	A-*	L-N	H-V	3	H-V	L-N
791	PARROT	1	2	53	4	1	9	-1	0	11	H-N	L-V	A-*	13	H-N	L-V
807	PENSION	1	7	6	4	1	9	1	0	8	A-*	H-N	L-V	2	H-N	L-V
828	PLANK	1	2	5A	3	3	9	1	0	1	A-*	L-V	H-N	8	L-V	H-N
867	PRESSURE	2	3	5A	4	1	9	1	3	18	L-V	A-*	H-A	7	L-V	H-N
873	PRIMARY	2	5	5B	5	3	1	0	9	21	A-*	L-N	H-A	20	H-A	L-N
1027	SLEIGH	1	1	5A	4	1	8	2	0	3	L-V	H-N	A-*	10	H-N	L-V
1059	SPLINTER	1	3	7	4	1	7	3	0	10	L-V	H-N	A-*	4	L-V	H-N
1090	STRUCTURE	3	4	7	4	1	9	-1	0	13	A-*	H-N	L-V	15	H-N	L-V
1118	TARRY	1	4	5A	6	4	0	9	1	5	L-A	H-V	A-*	12	L-A	H-V

meanings by matching them with synonyms or words that are closely related
semantically.

(2) "Headline" tests. In order to restrict grammatical cues somewhat,
imaginary newspaper headlines would be presented and the pupils would be
asked to expand or paraphrase these. Alternate forms of the test would
present words in frequent and in infrequent grammatical functions.

(3) Sentence evaluation tests. Alternate forms of this test would present
(1) sentences containing frequent grammatical functions for a word, (2) sentences
containing infrequent grammatical functions, and (3) sentences containing
clearly unacceptable (syntactically anomalous) usages of the MGF words. The
respondents would be asked to evaluate each sentence for "correctness" or
acceptability.

(4) Verification tests. It was thought that at least some MGF words
might lend themselves to the construction of instruments that would test
comprehension by asking the respondent to match a sentence with one of four
pictures, sentences such that if they contained a MGF-H usage they would
refer to one of the pictures whereas if they contained a MGF-L usage they
would refer to another of the pictures.

Attempts were made to construct suitable tests of all four types, but
it was found that the two most practicable types of tests were (2) and (3),
the "headlines" test and the sentence evaluation test.

Although it might have seemed easy to construct appropriate multiple-
choice vocabulary tests, this proved to be untrue. The difficulty was
that in the context of the present experiment it was usually impossible to
avoid constructing alternative choices that did not "give away" the grammatical
function of the key word.

After some investigation, the plan to construct "verification" tests
was abandoned because few MGF words lent themselves to easy pictorial

representation. In any case, the cost and difficulty of having suitable

pictures drawn was thought to make this plan impracticable.

Sentence evaluation tests. It proved relatively easy to construct this

type of test. The type of item may be illustrated by the items constructed

for "frequent" (MGF-H), "infrequent" (MGF-L), and anomalous useges of the

word AGE, selected at Level 1.

MGF-H (Noun) He told me his age.   RIGHT   WRONG

MGF-L: (Verb) The trees age every year.   RIGHT   WRONG

(Anom.)   The age paper was new.   RIGHT   WRONG

The respondent was asked to decide whether the underlined word is used correctly

or not, and to put a circle around RIGHT or WRONG to indicate his decision.

At each level of difficulty, three alternate forms were constructed to

test the 21 words chosen for that level. The MGF-H, MGF-L, and anomalous

usages were randomly distributed among the three forms, with the constraint

that each form would contain 7 MGF-H items, 7 MGF-L items, and 7 anomalous items.[1]

A respondent correctly marking each item would mark 14 items as RIGHT and 7 items

as WRONG. Nothing was indicated in the instructions as to how many items would

be correctly marked as RIGHT or WRONG. The 7 anomalous items served as "filler"

items to provide an opportunity for the respondent to find "WRONG" items. The

test was designed so that it would be possible to compare the responses to

MGF-H and MGF-L items when the different forms were administered to random

divisions of the school classes to be tested

The page of test items was preceded by a page of instructions which stated

that "this is a test of how well you know the uses of certain words" and

illustrated the manner of marking the responses for two sentences with

"correct" usages and one sentence with an anomalous usage. The respondents

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[1] Through a clerical error, a minor deviation from this rule occurred for
the Level 2 forms. The "H" and "L" usages of TWINE were placed in Forms C
and A, respectively, whereas they should have been put in Forms A and C, respec-
tively.

were cautioned that the test "has nothing to do with whether the sentences are true or not," and were given three further practice items (again, two "right" and one "wrong").

Headlines test. For this test, it was necessary to construct imaginary "headlines" illustrating the MGF-H and MGF-L usages. The type of item may be illustrated, as before, for the word AGE:

MGF-H:

CHILD TELLS HIS AGE

_____

_____

MGF-L:

STUDY SHOWS PEOPLE AGE SLOWER

_____

_____

For each item, two lines were provided which the respondent could use to write a paraphrase that would "explain what the headline means" without using the underlined word.

Two alternate forms were constructed at each level, the MGF-H and MGF-L usages being assigned randomly to the two forms under the constraint that 10 or 11 of each type would occur in each form.[2] Formating considerations dictated that each form contained a total of 21 items, 7 items on each of three pages. The cover page contained instructions which stated that this was "a test of how well you understand newspaper headlines," and gave a number of examples of how the test was to be completed--4 examples completed and 2 for the respondent to try for himself.

All the items in both the sentence evaluation test and the headlines test, in their several versions for each word, are presented in Appendix D.

_____
[2]Through clerical error, Form A at Level 3 contained 12 H and 9 L, while Form B contained 9 H and 12 L, because the H and L usages of NIBBLE were misassigned.

It could be argued that the results of this study would be determined,
to some extent, by the particular sentences constructed for the words and
that in consequence the results could not readily be generalized to other
sentences that might be written for the words. The only defense against
this argument is that the major purpose was to generalize certain conclusions
over samples of words rather than to study performance on particular words.
Any confounding of results with the particularities of item construction
would, it was hoped, be approximately randomized over the samples of words.
It would have been impracticable, without greatly increasing the scale of
the study, to construct alternate sets of sentences for the words in order
to test the hypothesis of interaction between particular item contexts and
the "treatment" effect represented by MGF-H, MGF-L, and anomalous usages.
In any case, a partial remedy for this design problem was provided by the
fact that each word was used both in a set of "sentence evaluation tests"
and in a set of "headlines" tests, with the consequent possibility of
comparing results across the two types of test.

Vocabulary test. Within the limited testing time available for this
study, it was considered desirable to obtain a measure of general verbal
ability for each child in order to have a basis for comparing groups and
analyzing results of the sentence evaluation and headlines test. This had
to be a brief test, and at the same time it needed to have such a range of
difficulty that it would be equally appropriate for children in grades 3, 6,
and 9. After a survey of the possibilities, it was decided to make an
adaptation of the Wide Range Vocabulary Test, Form B, by C. R. Atwell and
F. L. Wells, published and copyrighted by The Psychological Corporation.
With the special permission of The Psychological Corporation, 25 items from
that test were selected and put in the form of a brief power test. Since
the items in the WRVT are (according to the Manual) arranged in order of

difficulty, a selection was made of every odd-numbered item from items
1 to 49 in order to provide a suitable range of difficulty for the
populations to be used in this study.[3] Since this test was not to be used
for individual diagnosis or guidance of any kind, it was felt that even a
test of 25 items would provide sufficient reliability of scores for the
purposes of this research.

The tests were assembled in two 4-page booklets: one booklet, to be
administered first, contained the sentence evaluation test (one page of
instructions, one test page) and the 25-item vocabulary test (one page);
the other booklet was exclusively devoted to the headlines test. The cover
page for each booklet provided space for the student to : 'te his name and
age. (Sex was not included as a variable in this study.) Each of the
booklets, of course, was printed in alternate forms for each level; there
were in all 9 booklets for the sentence evaluation test and 6 for the
headlines test. The booklets contained identical cover pages (except for
level and form designation); the vocabulary test was identical in all of
the sentence evaluation booklets. Samples of sentence evaluation and headlines
booklets are given in Appendix E.

Samples tested

As was seen in the discussion of the construction of instruments, it
was planned to administer the alternate forms of these instruments to random
divisions of the classes to be tested, in order to obtain statistically
valid comparisons of proportions of correct responses to MGF-H and MGF-L
usages. Because each word was presented in different usages in two test
forms, a further design feature was that there should be a 2 x 3 design

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[3]There were two exceptions to this rule. Item 20 was used instead of 19
because 19 concerned a word used in this study, PRESERVE. Item 44 was taken
instead of 43 because the latter concerned a word considered to be somewhat
outdated, COIFFURE.

such that equal numbers would take each possible combination of alternate

forms at a given level. This was done in order to investigate any possible

interaction between types of test instruments and the usages represented

in given forms. In view of the fact that the instruments were administered

in a constant order, it was possible that the responses to the headlines

items might be affected by the usages of the words that the examinee had

encountered when he took the sentence evaluation test. It was planned to

test the possibility of this interaction by a two-way analysis of variance

with $\underline{m}$ cases per cell. At the data collection stage, the six possible

form combinations were distributed to random sixths of the classes tested.

At the data analysis stage, cases were eliminated randomly in such a way

that the numbers in each cell of the 2 x 3 matrices for each level and

grade were equalized.

To obtain data that would permit comparisons between grades for a

given level, Level 1 was planned to be administered to classes at both

grades 3 and 6, while Levels 2 and 3 were to be administered to classes at

both grades 6 and 9. (Levels 2 and 3 were considered to be too difficult

for grade 3 children, and Level 1 too simple for grade 9.) To the extent

possible, the assignment of a particular class to a level was to be random.

To obtain sufficiently reliable results, it was felt desirable to

administer each of the three forms of the Sentence Evaluation Test to a

minimum of 100 pupils at each level and grade to be tested, and correspondingly,

each of the two forms of the Headlines Test to a minimum of 150 pupils at

each level and grade. Data collection activities were planned with this

objective in mind, but the objective was not completely attained in all

cases. The objective was over-fulfilled for Level 1 at grade 3, however,

where 426 pupils were tested; it was satisfactorily fulfilled for all levels

ade 6, where 301, 357, and 354 pupils were tested with Levels 1, 2, and 3,

respectively. At grade 9, the numbers of pupils tested with Levels 2 and 3, 287 and 288 respectively, were slightly short of the goal.

In all, more than 2000 pupils were tested in May 1970. These pupils comprised practically all pupils at grades 3, 6, and 9 at 17 schools in three communities. The largest number, 823, came from elementary, middle, and secondary schools in Dover Capital School District, Delaware. An almost comparable number, 708, came from a similar distribution of schools in Bensalem Township, Pennsylvania (on the northern edge of metropolitan Philadelphia) and 473 came from all three levels of schools in New Brunswick, N. J. In each community an effort was made to obtain cooperation from a representative group of schools in the lower grades; in all three communities, the grade 9 pupils were from a single junior or senior high school that drew from all segments of the community. It is believed that the samples can be regarded as reasonably representative of grades 3, 6, and 9 in these communities.

Procedures in test administration

Testing was personally conducted by research assistants from the project staff. They introduced the testing as part of a research project concerned with the development of English language skills; pupils were told that the results would have no bearing on their school grades. Pupils were directed to follow the printed instructions for each test.

The arrangements for the testing permitted the work to be done at a single sitting, which was generally a class period of 40 to 50 minutes in length. This time proved ample to allow all or nearly all pupils to complete the tests (in the sense of trying all items). The order of testing was constant for all pupils: The Sentence Evaluation (Word Uses) test was performed first, followed by the 25 vocabulary items and the Headlines test. As pupils finished the booklet containing the Sentence Evaluation Test and the vocabulary test, they had to pass them in, at which time they were

permitted to begin work on the Headlines test. All tests were given, therefore, without time limits.

Scoring of the tests

The Sentence Evaluation and vocabulary tests presented no problem in scoring since they were of a completely objective type. After the raw data on the responses for these tests were keypunched, the following scores were obtained by computer:

Sentence Evaluation Test:

E_1 Number correct (marked RIGHT) for MGF-H items
E_2 No. no response for MGF-H items
E_3 Number correct (marked RIGHT) for MGF-L items
E_4 No no response for MGF-L items
E_5 Number correct (marked WRONG) for anomalous items
E_6 No. no response for anomalous items
E_7 Total number correct $= E_1 + E_3 + E_5$

E_8 Total number no response $= E_2 + E_4 + E_6$

Wide Range Vocabulary Test (adaptation):

V_1 Number correct
V_2 Formula score $= R - (1/4) W$, rounded to an integer
V_3 Number of last item marked

The responses to the Headlines test, however, had to be scored by subjective methods. For each response, it was necessary to evaluate whether the paraphrase written by the subject reflected an adequate degree of comprehension of the underlined word in the stimulus sentence.

After considerable working over of the response data, the following assumptions and codes were established:

Assumption 1· The score is to be assigned on the basis of the coder's judgment of the respondent's understanding of the underlined word.

Assumption 2: The score should not depend upon the respondent's understanding, or lack of understanding, of the remainder of the sentence.

Codes:

1 : Correct in the intended meaning and grammatical function
(i.e., the "high frequency" usage for MGF-H words and the
"low frequency" usage for MGF-L words).

2 : Correct in the intended grammatical function, but in a secondary
meaning.

3 : The word was understood in a grammatical function and meaning
contrary to that intended in the construction of the item.
(Note: For most items, this constituted an incorrect response.
However, it turned out that a few of our items were ambiguous
in that they were open to two or more interpretations. See a
further note on this matter below.)

4 : Incorrect: meaning clearly not understood.

5 : Partial comprehension: understanding of the intended meaning
and grammatical function was necessary to make the response,
but the response itself does not properly represent the under-
lined word.

6 : Nonscorable: the coder cannot objectively judge whether or not
the underlined word was understood. (I.e., no evidence of the
meaning of the underlined word appears, or an ambiguous word is
used in the response so that the meaning is not clear.)

7 : The response represents [by a kind of unconscious play on words]
both of the intended meanings and grammatical functions.

8 : Nonscorable because of

    (a) illegibility of response
    (b) irrelevancy of response
    (c) use of the underlined word or its compounds or inflections,
        contrary to directions. (An exception was that "turn
        over" was acceptable as a paraphrase of OVERTURN.)

9 :   Nonscorable because there is evidence that the response was

copied from another form of the test ("cheating").

0 :   No response: nothing written.

All response positions were inspected by one of several research
assistants assigned to do the coding, and codes were assigned according to
the above scheme.   In general, results were analyzed on the basis of the
coding of a single person.   Coders went through a training period in which
the above codes were developed and discussed.   After this training period,
a formal study of coding reliability was carried out.

Coder reliability study - Headlines Test

First, by pulling every nth paper in the total set available for a
given form and level (including both grades for a given level)--with n
adjusted to yield the correct result for a given set of papers--each of
three coders selected approximately 50 papers in Form A and 50 papers in
Form B, at a given level, and proceeded to code them according to the
key that had been established.   Each set of coded papers was then further
divided into two sets, each of these sets then being independently coded
by one of two other coders.   In this way reliabilities of coding could be
established for all possible pairs of coders for both forms for two of the
three levels.   That is, if we designate the coders by the letters A, B, and
C, two independent sets of codings were obtained according to the following
scheme (numbers in cells are numbers of papers coded):

	Coder Combination	Form A	Form B	Total
Level 1	A-B	25	26	51
	A-C	25	25	50
		50	51	101
Level 2	B-A	24	26	50
	B-C	25	25	50
		49	51	100

	Coder Combination	Form A	Form B	Total
Level 3	C-A	26	29	55
	C-B	20	26	46
		46	55	101

A computer program was written to analyze the results of this coder reliability study item by item. For each item, form, level, and pair of coders, the percentage of agreement was computed on the basis of the ratio of the number of exact agreements in coding to the total number of codes assigned, exclusive of cases of no response. Out of 252 item-agreement percentages so formed, exactly one-third were 100%. The remainder ranged from 66% to 96%, the median of the total distribution being at 95%. This would appear to represent a satisfactory level of agreement.

Table 5.2 provides a summary of the item-agreement values. Certain trends are apparent in this table, but they are so slight that it has not been considered worthwhile to test them for significance:

(1) There is slightly less agreement on the coding of "low frequency" grammatical functions than for the coding of the "high frequency" grammatical functions.

(2) The coding of items in Form B is slightly less reliable than that for Form A items. The only explanation that can be offered for this is that the coders worked on Form B subsequently to Form A, and possibly became slightly less attentive by the time they reached Form B.

(3) Coding was slightly less reliable with increasing level. This effect, however, may be associated with the assignment of coder pairs; pair A-C tended to show less agreement than the other pairs. It cannot be said, however, that any one coder was consistently less in agreement with his colleagues than the other coders.

Table 5.3 presents for each level a matrix showing the joint frequency distribution of individual codes, summed over items and coder-combinations.

Table 5.2

Results of Coder Reliability Study for Headlines Test

Entries Are Average Percentages of Agreement over Items

		Form A			Form B			Both Forms		
		Coder Combination			Coder Combination			Coder Combination		
Level	H vs. L			Total			Total			Total
		A-B	A-C		A-B	A-C		A-B	A-C	
1	H	99.19	91.84	95.37	96.40	89.09	92.95	97.86	90.53	94.22
	L	98.67	89.06	93.66	98.65	88.01	93.21	98.66	88.51	93.43
	Total	98.94	90.51	94.56	97.58	88.52	93.09	98.26	89.52	93.82
		B-A	B-C		B-A	B-C		B-A	B-C	
2	H	92.39	93.24	92.86	92.24	94.86	93.50	92.31	94.09	93.20
	L	94.44	95.42	94.92	88.09	92.74	90.27	91.41	94.14	92.71
	Total	93.46	94.38	93.94	90.26	93.85	91.96	91.86	94.12	92.95
		C-B	C-A		C-B	C-A		C-B	C-A	
3	H	99.43	89.62	93.88	97.47	89.70	93.28	98.50	89.66	93.60
	L	99.41	85.37	91.48	94.35	83.26	88.48	96.76	84.26	89.91
	Total	99.42	87.59	92.74	95.84	86.33	90.77	97.63	86.96	91.75

By Coder Combinations:

A-B		A-C		B-C	
Level 1	98.26	Level 1	89.52	Level 2	94.12
Level 2	91.86	Level 3	86.96	Level 3	97.63
Combined	95.06	Combined	88.24	Combined	95.87

The row and column sums (labeled RS and CS, respectively) show the

distributions of codes assigned. (The occasional cases in which "0", the

"no response" code, was paired with another code are not reflected in row and

column sums; these represent either coding or punching errors but are of

negligible frequency.) There seems to be no particular pattern of disagree-

ment or confusion in these matrices; the various codes are confused with

each roughly in proportion to their relative frequencies.

Scores assigned for Headlines Test

The following scores were obtained by computer for the Headlines Test:

H_1 Number correct (codes 1 and 2, and sometimes 3*) for words in
        high frequency usage

H_2 Number of "no response" codes (code 0) for words in high frequency
        usage

H_3 Number correct (codes 1 and 2, and sometimes 3*) for words in
        low frequency usage

H_4 Number of "no response" codes (code 0) for words in low frequency
        usage

H_5 Total number correct ($H_1 + H_3$)

H_6 Total number "no response" ($H_2 + H_4$)

H_7 Difference between number correct for high and number correct for
        low ($H_1 - H_3$)

*As noted earlier, certain items were recognized as being ambiguous,

i.e., open to interpretation using either the "high frequency" or "low

frequency" usages. A code of "3" for the following items was scored as

"correct":

Level 1, Form A, Item 19:   RUNNER GAME FOR RACE
                            (intended: "low usage," adjective)

Level 1, Form B, Item 2:   PRIVATE SCHOOLS OPEN
                            (intended: "high usage," adjective)

Level 1, Form B, Item 5:   TEACHERS FACE GRAVE PROBLEMS
                            (intended: "low usage," adjective)

Table 5.3

Reliability Check Summary Matrix--MGF Study-Phase II

Level 1 (N = 101)

Codes (2nd Coder)

	0	1	2	3	4	5	6	7	8	9	RS
0	441	0	0	0	0	0	0	0	0	0	(441)
1	6	936	2	1	4	7	3	0'	2	0	955
2	1	0	15	0	1	0	0	0	0	0	16
3	0	1	0	23	1	0	0	0	0	0	25
4	0	4	1	0	174	8	7	0	10	0	204
5	0	9	0	0	4	112	2	0	4	0	131
6	0	0	0	0	4	3	100	0	3	0	110
7	0	0	0	0	0	0	0	0	0	0	0
8	0	2	2	0	7	2	3	0	215	0	231
9	0	0	0	0	0	0	0	0	0	1	1
CS	(448)	952	20	24	195	132	115	0	234	1	1673

Codes (1st Coder)

#AGREE= 1576 %AGREE= 94.20

Table 5.3 (Contd.)

Reliability Check Summary Matrix--MGF Study-Phase II

Level 2 (N = 100)

Codes (2nd Coder)

		0	1	2	3	4	5	6	7	8	9	RS
	0	201	0	0	0	0	0	1	0	0	0	(202)
	1	4	913	0	0	3	16	3	0	1	0	936
	2	0	0	20	0	0	1	0	0	0	0	21
Codes (1st Coder)	3	0	0	0	8	0	0	0	0	0	0	8
	4	2	2	1	1	252	8	5	0	8	0	277
	5	0	27	0	1	11	222	2	0	4	0	267
	6	0	0	0	1	3	1	35	0	2	0	42
	7	0	0	0	0	0	0	0	3	0	0	3
	8	1	4	0	1	12	3	5	0	312	0	337
	9	0	0	0	0	0	0	0	0	0	0	0
	CS	(208)	946	21	12	281	251	50	3	327	0	1891

#AGREE= 1765 %AGREE= 93.34

Table 5.3 (Contd.)

Reliability Check Summary Matrix--MGF Study-Phase II

Level 3 (N = 101)

Codes (2nd Coder)

	0	1	2	3	4	5	6	7	8	9	RS
0	432	0	0	0	1	1	0	0	0	0	(434)
1	0	649	0	0	13	14	1	0	3	0	680
2	0	0	12	0	0	0	0	0	0	0	12
3	0	0	4	42	2	0	0	0	1	0	49
4	0	6	1	1	354	8	2	0	8	0	380
5	0	14	1	0	10	169	2	0	3	0	199
6	0	4	0	1	9	4	37	0	1	0	56
7	0	4	0	0	0	1	0	2	0	0	7
8	0	1	1	2	13	2	1	0	284	0	304
9	0	0	0	0	0	0	0	0	0	0	0
CS	(432)	678	19	46	401	198	43	2	300	0	1687

Codes (1st Coder)

#AGREE= 1549 %AGREE= 91.820

Level 3, Form A, Item 1:   NOVEL IDEA WINS ATTENTION OF SCIENTIFIC LEADER

(intended: "low usage," adjective)

Level 3, Form A, Item 20:   PROSECUTOR PRESENTS PRIMARY EVIDENCE

(intended: "high usage," adjective)

It is interesting to note that every one of these "ambiguous" items was originally written with the intention that the underlined word be interpreted as an adjective, and that the alternative and possible interpretation of the word as a noun was overlooked. In retrospect, it appears that it would have been difficult to write the items in such a way as to preclude the alternative interpretation.

RESULTS

In order to obtain equal numbers of cases in the cells of the 2 x 3 table of combinations of Evaluation and Headlines test forms, it was necessary to exclude a certain number of cases randomly. The final results were based on 1866 cases, with the exclusion of 133 cases, broken down as follows:

	Total Cases Used	Cases Excluded	Total Cases Available
Level 1, Grade 3:	414	15	429
Level 1, Grade 6:	240	56	296
Level 2, Grade 6:	336	19	355
Level 2, Grade 9:	270	14	284
Level 3, Grade 6:	324	23	347
Level 3, Grade 9:	282	6	288
	1866	133	1999

The figure of 1999 cases available is exclusive of about 10 cases that for some reason had taken only one of the two tests.

The major results of the study are displayed in Tables 5.4, 5.5, 5.6, and 5.7 which appear on pp. 131-175. Tables 5.4 and 5.5, which concern the Sentence Evaluation test and the Headlines test, respectively, are organized in three parts for each level and grade combination:

(a) For each word, frequencies and proportions of correct and incorrect responses to words in "high" and "low" frequency grammatical function (and "anomalous" function, for the Evaluation test data), with significance tests for the contrast between "high" and "low" usage responses;

(b) For each word, an analysis of variance of the proportions of correct responses in the 2 x 3 table of form combinations, in order to test the possibility of interaction between forms;

(c) For each word, biserial correlations of correct responses to "high," "low," and (for Evaluation Test responses) "anomalous" stimuli, with age, vocabulary score, evaluation test score, and headlines test score. These tables also give mean age, vocabulary, evaluation, and headlines test scores for those giving a correct response. As will be noted, there is some systematic variation in evaluation and headlines test scores depending upon form; these tables therefore give mean scores for age, vocabulary, evaluation, and headlines by form. Evaluation and headlines test scores are those identified as E_7 and H_5 above.

Table 5.6 gives, for each level-grade combination, intercorrelations among the variables age, vocabulary, evaluation score, and headlines score, for each Evaluation-Headline test form combination, as well as significance tests for differences in mean scores of these variables among or between evaluation test forms and headlines test forms, respectively.

Table 5.7 gives, for each level, information concerning the significance of differences between proportions correct on each word at the two grades within a level.

These results permit giving a number of fairly definitive answers to number of questions towards which this study was oriented.

First we must consider a number of essentially methodological questions:

(1) Was the random assignment of cases to evaluation and headline test form combinations successful in yielding comparable groups? To answer this question, we examine the results of the ANOVAS for age and vocabulary in Table 5.6. Both age and vocabulary scores would appear to be relevant control variables for checking randomness of selection. Furthermore, it will be observed in the analysis of the biserial correlations in Tables 5.4 and 5.5 that both age and vocabulary show significant correlations with performance on the evaluation and headlines test.

The answer to the question raised here appears to be affirmative. Out of all the 60 probability values for the F-ratios computed for age and vocabulary contrasts among evaluation form scores or between headline form scores in Table 5.6, only one passes the usual test of significance; it is a probability value of .003. It is probably to be taken as reflecting a chance sampling effect. On the whole, the 60 probability values form an approximately rectangular distribution, as one would expect them to do if the samples were randomly selected with respect to age and vocabulary score.

(2) Is there any interaction or other influence between the Evaluation forms and the Headlines forms? To answer this question, we examine the analysis of variance results given in those parts of Tables 5.4 and 5.5 which show proportions of correct responses broken down by form combinations. Actually, since the pupils took the Evaluation test before they took the Headlines test, the results for the Evaluation test (in Table 5.4) should have no bearing on the question of interaction. Significant interactions in Table 5.4 should arise only as a matter of chance fluctuation. Out of 126 F-ratios for form x form interaction in Table 5.4, only 3 are significant at the 1% level--whereas one would expect about 1 by chance. There are also 4 F-ratios for the Headlines test that are significant at the 1% level

(in fact, 2 of them are significant at the .1% level); these, however, must

be regarded as arising from sampling fluctuation because it does not make

sense to assume that the performance on the Evaluation test could have

differed depending upon which Headlines test form the pupil was to take

subsequently.

The results in Table 5.5 could, however, be interpreted as showing

a significant effect of the Evaluation test form upon performance in the

Headlines test--if indeed there were any large number of significant

interactions. But as a matter of fact, there are no interactions in Table

5.5 significant beyond the 1% level; only 2 are significant at the 5%

level, fewer than one would expect by chance. There are 4 F-ratios for

the Evaluation test main effect that are significant beyond the 1% level;

such F-ratios, if truly significant, would indicate that performance on

the Headlines test varied significantly depending upon which Evaluation

test form had been taken. The most extreme case is that for the word

PRIVATE at Level 1, grade 3, where the overall proportions of correct

response to the Headlines items (both "high" and "low" usage) were .101,

.246, and .116, respectively, depending upon whether the pupil had been

exposed to the word in its "high," "low," or "anomalous" usage in the

Evaluation form. That is, pupils paraphrased the Headlines items better

if they had been exposed to the item in the "low" Evaluation item: "A

private won a medal during the war." One might attempt to interpret this

result if a similar phenomenon occurred with the same item at grade 6, but

it did not; in fact, the overall proportions at grade 6 were .550, .487,

and .412, respectively. There was in fact no case in which consistent

results of this type were obtained for an item at the two grades where it

was tested. We may then conclude that there were no truly significant

interactions or other influences operating between the Evaluation test forms

and the Headlines test forms. The results obtained with the two types of tests can be regarded as experimentally independent. (This is not to say, of course, that the data were uncorrelated. As we will see, there is evidence that performances on the two tests were correlated in the sense that students who did well on one test also tended to do well on the other.)

(3) <u>Are the different forms of the Evaluation test and the Headlines test, respectively, equivalent in difficulty?</u> In advance of the analysis of data there was no way of insuring form equivalence, and as a matter of fact, form equivalence was not necessary for the design of the study since analysis was to focus on the results for individual words. It was desirable to investigate form equivalence, however, in order to see whether it would be feasible to pool scores from different forms for correlational analysis.

Means Evaluation test and Headlines test scores, by form, for each level and grade, are to be found in Tables 5.4 and 5.5. However, they are summarized below, with appropriate significance tests:

Mean Evaluation Test Scores
(Maximum Score Possible Is 21)

	Form A	Form B	Form C	F	p
Level 1, Gr. 3	13.54	14.41	15.36	9.78	$<.001$
Level 1, Gr. 6	15.89	17.69	17.91	15.45	$<.001$
Level 2, Gr. 6	16.05	15.38	15.44	2.22	$>.05$
Level 2, Gr. 9	17.41	16.99	16.72	1.83	$>.05$
Level 3, Gr. 6	14.10	13.02	14.41	6.23	$<.01$
Level 3, Gr. 9	15.93	15.70	15.98	.28	n.s.

Mean Headlines Test Scores

(Maximum Score Possible Is 21)

	Form A	Form B	F	p
Level 1, Gr. 3	6.63	4.39	26.43	<.001
Level 1, Gr. 6	13.48	9.52	28.35	<.001
Level 2, Gr. 6	7.92	9.20	5.02	<.05
Level 2, Gr. 9	11.86	11.75	.03	n.s.
Level 3, Gr. 6	6.39	6.17	.20	n.s.
Level 3, Gr. 9	10.72	9.05	8.99	<.01

The Evaluation test forms are consistently nonequivalent at Level 1; at the other levels they are approximately equivalent except at Level 3, grade 6. A somewhat parallel situation exists for the Headlines test forms: they are consistently nonequivalent at Level 1, but show approximate equivalence at some other levels and grades.

Because of the varying degrees of form equivalence, we have avoided computing correlational data using scores pooled across forms.

Results for the Main Hypotheses of the Study

The main hypothesis of this study was that school-age children will have more difficulty in understanding sentences in which words are used in relatively less frequent grammatical functions than sentences in which these words appear in more frequent grammatical functions.

Data bearing on this hypothesis appear in Tables 5.4 and 5.5. In Table 5.4, pertaining to performance on words in the Sentence Evaluation test, we have for each level and grade combination the proportions of correct responses to words in "high frequency" grammatical function as compared to the proportions of correct responses to words in "low frequency"

grammatical function, and the significance of the differences. (The
proportions of correct responses to words in "anomalous" usage are also
given, but since these items were merely "fillers," they are of no immediate
interest here.)

Likewise, in Table 5.5, pertaining to responses in the Headlines test,
we have figures for the significance of the differences between proportions
of correct responses for "high frequency" and "low frequency" items.

In both cases, the significance tests were computed so that positive
values would favor the hypothesis. Table 5.8 (p. 176) is a summary of these
significance tests. From this table, it is seen that the majority of the
tests favor the hypothesis, particularly in the case of those from the
Sentence Evaluation tests. A simple sign test of the number of differences
favoring the hypothesis yields the answer that all of the level-grade
results for the Evaluation test favor the hypothesis at better than the
.001 level; i.e., at least 18 out of the 21 words at each level and grade
show differences in favor of the hypothesis. For the Headlines test, the
results are not so consistently in favor of the hypothesis, but the trend
is certainly in that direction.

It is even more noteworthy that for the Evaluation test, 77 out of a
possible total of 126 differences were positive and significant beyond the
.1% level; no differences were negative and significant at the same level.
For the Headlines test, 46 out of 126 differences were positive and
significant beyond the .1% level, while 21 differences were significant
at the same level but in an opposite direction.

These results would appear to confirm the major hypothesis of the
study. Before drawing a final conclusion, however, it is necessary to
examine the results more closely. It is possible, for example, that differing
grammatical function was not the critical factor, or not the only critical

factor. Semantic differences correlated with grammatical functions could
have produced the results; that is to say, it is possible that the
respondents were less familiar with infrequent semantic usages of the words
and that the differences between "high frequency" and "low frequency"
grammatical usage responses were most striking when such semantic differences
existed.

To explore this possibility, consideration was first given to contrasting
the results for words in semantic code "1" with the results for words in
the other semantic codes. (See Chapter II for a description of these semantic
codes.) However, it appeared more useful to regroup the words in terms of
whether important semantic differences were actually present in the "high" and
"low" usages employed in the Evaluation and Headlines forms. Pertinent data
were then culled from the previous tables and reorganized in the form of
Table 5.9 (pp. 177-182). The preparation of this table also afforded an oppor-
tunity to align results from the two grades within a level in order to examine the
degree of consistency across grades. Also, the table presents data on the
biserial correlations of the responses with Vocabulary scores, data that are
of considerable interest in interpreting the overall results.

At Level 1, 8 words were judged to have essentially the same semantic
content in both H and L grammatical usages in both the Evaluation and
Headlines tests, while 13 words were judged to have important semantic
differences associated with differences in grammatical function. Among the
former words, for example, were AGE (H-N, L-V), END (H-N, L-V), and TAKE
(H-V, L-N). Among the latter were such words as CHANCE (H-N, L-V), FREE
(H-A, L-V), and GAME (H-N, L-A): in the H usage, CHANCE had the meaning
"opportunity" ("We did not have a chance to see them"), whereas in the L
usage, it had the meaning "take a risk" ("The driver said he would chance
___ace in the snow"). Similarly, in the H usage, FREE had the meaning

"gratis" whereas in the L usage it had the meaning "set loose"; in the H

usage, GAME had its usual meaning whereas in the L usage it had the meaning

"plucky."

It does not seem worthwhile to attempt to make exact statistical

comparisons of the results for the two groups of words; there were, indeed,

more instances of highly significant comparisons for the group of words with

semantic differences. In the group of words with similar meanings in two

grammatical functions, END, LINE, NAME, SIGHT, and WISH were consistent

across grades in not exhibiting any significant differences between H and

L grammatical functions in the Evaluation test. In the group of words with

different semantic content in the two grammatical functions, there was no

word that did not show a significant difference (at the 5% level or better) at

at least one of the two grades. These results would suggest that at least

a part of the variation in results may have been due to differences in semantic

content such that the pupils were less familiar with the less frequent

semantic usages. Such a result confirms observations that have been made

quite often in the past (e.g., by Berwick, 1952; Howards, 1964; Thevaos, 1951).

On the other hand, even among the words with similar semantic content

in the two grammatical functions, four were consistent in exhibiting signif-

icant differences (at the 5% level or better) in the hypothesized direction

over the two grades: AGE, FILL, SIGHT, and TAKE. For the following pairs

of sentences, significantly fewer students marked the L usage as "correct":

        H He told me his age.
        L The trees age every year.

        H The men will fill in the hole with dirt.
        L They need fill for the holes in the road.

        H The valley was a pretty sight from the hill.
        L If you are lucky, you will sight a star.

        H Our class will take a trip to the zoo.
        L The hunters returned with a big take.

If one supposes that the L usages are indeed "correct" or acceptable, these results suggest that the pupils tend to show difficulty in understanding words in unusual grammatical functions even when the semantic content is essentially the same as that associated with the more frequent grammatical function.

We have discussed the results for Level 1, Evaluation test in detail. The reader may inspect the remainder of the results for himself. The general conclusions that seem to emerge from Table 5.9 are as follows:

(1) For the Evaluation test results, there is some tendency towards a greater incidence of highly significant positive results in the case of words in which semantic differences are associated with differences in grammatical function, but there exist also many highly significant positive comparisons for words in which semantic content is essentially the same in the two grammatical functions. In general, these results tend to be consistent over the two grades sampled for a given level of the test. The positive differences that are most striking in this respect are for the following words: AGE, FILL, SIGHT, TAKE, BOTHER, CHANNEL, DRUG, POLL, SNAKE, ECLIPSE, EPIDEMIC, IMPRESS, PARROT, PLANK, SLEIGH, SPLINTER, and STRUCTURE.

(2) Somewhat similar conclusions arise from the data for the Headlines test: the results tend to be more significant for words with different meanings in H and L grammatical usage, but among the words with similar semantic content in H and L grammatical usages, there are many words which show significant differences across grades. Not as many of these differences, however, are significant in the hypothesized direction as is the case for the Evaluation test items. This may be because the Headlines test is a much more exacting task: the student must create a paraphrase for the item. The overall proportions correct are consequently much lower for the Headlines items; the differences may be due not only to the student's ability to

comprehend the word in a given usage but also to his ability, or lack of

ability, to write an appropriate paraphrase for the item. In any case,

words that show more or less consistent results favoring the major

hypothesis of this study are the following: AGE, LINE, WISH, CHANNEL,

SCARE, ECLIPSE, EPIDEMIC, OVERTURN, PARROT, PRESSURE, SPLINTER, and

STRUCTURE.

The biserial correlations with Vocabulary scores shown in the table

aid in the interpretation of these results. It seems reasonable to expect

that Vocabulary scores, as measures of general verbal ability, would

correlate with performance on the Evaluation and Headlines test. In fact,

the correlations of Vocabulary scores with total Evaluation and Headline

test scores are generally substantial, as shown in Table 5.6: the

correlation is almost always higher with the Headlines test score than with

the Evaluation score, however. This may be partly due to the fact that

the Evaluation test is a much easier test, with a possible ceiling effect.

More probably, the correlation is higher because the Headlines test, with

its paraphrasing task, draws upon the pupil's general vocabulary knowledge

to a greater extent. Still, the correlation of Vocabulary scores with total

Evaluation scores is significantly positive in every case.

It was anticipated that the biserial correlations between vocabulary

and performance on both Headlines and Evaluation items would be generally

higher for items in "low frequency" grammatical usage; it was reasoned

that performance on low frequency items would make more demand on the

student's general vocabulary. This turned out not to be the case, at

least for the Evaluation test items. The correlations were on the average

much lower for items in "low frequency" grammatical usage than for "high

frequency" grammatical usage. Possibly many of those who marked L items

as "correct" were actually low-verbal-ability students who were deficient

in the ability to discriminate correct and incorrect usages; if so, the
biserial correlations for these items could be expected to be low. The
fact is that the biserial correlations for Evaluation items were generally
higher for the "H" items; that is, these are actually better discriminators
of verbal ability.

In contrast, the biserial correlations for Headlines items with
Vocabulary scores were generally substantial, both for H and L usages.

Comparisons across Grades

Table 5.7 gives, for each level, comparisons of proportions correct
between grades, for H, L, and A items in the Evaluation tests and for H
and L items in the Headlines test. Nearly all the differences are in a
positive direction, as one might expect in view of the general improvement
in language skills that occurs with increasing age and grade levels, and
the majority of the differences are statistically significant at the 5%
level or better. The improvement from grade 3 to grade 6 at Level 1 is
especially striking, particularly for Headlines items of both the H and
L types, but there is also improvement in H, L, and A types of Evaluation
items. Nevertheless, even at grade 6 a number of L-type Evaluation items
are still not recognized as correct by substantial proportions of students:
the items for CHANCE, FILL, GAME, GRAVE, MILL, PAGE, SIGHT, SKIRT, STRANGER,
and TAKE. Also, for most of these words, the students performed poorly in
writing paraphrases for L-usages in the Headlines test. Unfortunately,
these words were not tested at grade 9; it would be interesting to do so
in future studies.

The comparisons between grades 6 and 9 at Levels 2 and 3 do not show
the nearly universal improvement that was noted for the grade 3 vs. grade 6
comparisons. However, performance on many words was already quite satisfactory
grade 6, at least in the Evaluation test items.

At Level 2, all H usages in the Evaluation test are correctly recognized by at least 75% of the students in grade 9 except APPEAL; however, the L-usages of BOTHER, CHANNEL, HEDGE, INCENSE, MOTOR, PLANE, POLL, SNAKE, SWAMP, and TWINE are recognized by fewer than 75% of these students. Generally, those words are also ones that are not well paraphrased in the Headlines test even by grade 9 students.

At Level 3, all H usages in the Evaluation test are correctly recognized by at least 75% of the students in grade 9 except BLOUSE (72.3%) and TARRY (71.3%). L-usages are recognized by fewer than 75% of these same students in the case of ANIMATE, BLOUSE, BUFFALO, ECLIPSE, EPIDEMIC, IMPRESS, NOVEL, OUTRACE, PARROT, PENSION, PLANK, SLEIGH, SPLINTER, STRUCTURE, and TARRY. Likewise, these are generally words that grade 9 students have particular difficulty in paraphrasing in the Headlines test.

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST

LEVEL 1, GRADE 3, ALL CASES

WORD	ITEM	FORM	WORDS IN HIGH MGF 1(R)	2(W)	N,I	TOT.	FORM	WORDS IN LOW MGF 1(R)	2(W)	N,I	TOT.	Z(D(R))	FORM	WORDS IN ANOMALOUS USAGE 1(W)	2(R)	N,I	TOT.
AGE	2	A	110 0.797	21 0.152	7 0.051	138	C	54 0.391	82 0.594	2 0.014	138	6.84***	B	23 0.167	114 0.876	1 0.007	138
BROKE	9	A	118 0.855	15 0.109	5 0.036	138	C	105 0.761	30 0.217	3 0.022	138	1.99*	B	21 0.152	115 0.833	2 0.014	138
CHANCE	7	B	105 0.761	28 0.203	5 0.036	138	A	53 0.384	82 0.594	3 0.022	138	6.33***	C	44 0.319	91 0.659	3 0.022	138
END	14	A	112 0.812	20 0.145	6 0.043	138	C	118 0.855	17 0.123	3 0.022	138	-0.97	B	30 0.217	103 0.746	5 0.036	138
FILL	3	B	111 0.804	24 0.174	3 0.022	138	C	49 0.355	87 0.630	2 0.014	138	7.56***	A	25 0.181	111 0.804	2 0.014	138
FREE	6	A	105 0.761	28 0.203	5 0.036	138	B	79 0.572	56 0.406	3 0.022	138	3.32***	C	25 0.181	110 0.797	3 0.022	138
GAME	4	B	112 0.812	25 0.181	1 0.007	138	A	20 0.145	111 0.804	7 0.051	138	11.09***	C	17 0.123	119 0.862	2 0.014	138
GRAVE	13	C	108 0.783	26 0.188	4 0.029	138	A	29 0.210	103 0.746	6 0.043	138	9.51***	B	43 0.312	88 0.638	7 0.051	138
LINE	8	C	122 0.884	13 0.094	3 0.022	138	B	111 0.804	25 0.181	2 0.014	138	1.83	A	23 0.167	110 0.797	5 0.036	138
LIVE	11	B	114 0.826	17 0.123	7 0.051	138	C	103 0.746	32 0.232	3 0.022	138	1.62	A	22 0.159	111 0.804	5 0.036	138
MILL	17	C	98 0.710	36 0.261	4 0.029	138	B	29 0.210	105 0.761	4 0.029	138	8.33***	A	17 0.123	114 0.826	7 0.051	138
NAME	19	B	125 0.906	10 0.072	3 0.022	138	A	117 0.848	13 0.094	8 0.058	138	1.47	C	24 0.174	110 0.797	4 0.029	138
PAGE	18	A	119 0.862	12 0.087	7 0.051	138	B	41 0.297	92 0.667	5 0.036	138	9.51***	C	24 0.174	110 0.797	4 0.029	138
PRIVATE	10	B	107 0.775	28 0.203	3 0.022	138	C	72 0.522	63 0.457	3 0.022	138	4.41***	A	34 0.246	98 0.710	6 0.043	138
SEASON	22	A	116 0.841	16 0.116	6 0.043	138	B	86 0.623	47 0.341	5 0.036	138	4.08***	C	64 0.464	70 0.507	4 0.029	138
SIGHT	20	C	112 0.812	23 0.167	3 0.022	138	A	56 0.406	75 0.543	7 0.051	138	6.91***	B	24 0.174	111 0.804	3 0.022	138
SKIRT	15	C	113 0.819	21 0.152	4 0.029	138	A	22 0.159	109 0.790	7 0.051	138	10.96***	B	41 0.297	94 0.681	3 0.022	138
STRANGER	5	C	110 0.797	26 0.188	2 0.014	138	B	50 0.362	86 0.623	2 0.014	138	7.32***	A	25 0.181	108 0.783	5 0.036	138
TAKE	1	B	114 0.826	23 0.167	1 0.007	138	A	32 0.232	102 0.739	4 0.029	138	9.89***	C	23 0.167	114 0.826	1 0.007	138
TRAIN	16	C	114 0.826	21 0.152	3 0.022	138	B	85 0.616	47 0.341	6 0.043	138	3.89***	A	36 0.261	96 0.696	6 0.043	138
WISH	21	A	112 0.812	22 0.159	4 0.029	138	C	118 0.855	17 0.123	3 0.022	138	-0.97	B	37 0.268	95 0.680	6 0.043	138
COLUMN SUMS			2357 0.813	455 0.157	86 0.030	2898		1429 0.493	1381 0.477	88 0.030	2898			622 0.215	2192 0.756	84 0.029	2898

In this and all succeeding tables: * p<.05 ; ** p<.01 ; *** p<.001

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 1, GRADE 3, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS--EVALUATION ITEM SCORES

WORD	ITEM	E(HIGH) H(H)	H(L)	M	E(LOW) H(H)	H(L)	M	E(ANOM.) H(H)	H(L)	M	ALL CASES H(H)	H(L)	M	EVAL. $F_{(2,408)}$	HEADL. $F_{(1,408)}$	E*H $F_{(2,408)}$
AGE	2	0.826	0.768	0.797	0.406	0.377	0.391	0.841	0.812	0.826	0.691	0.652	0.671	44.455***	0.843	0.053
BROKE	9	0.841	0.870	0.855	0.739	0.783	0.761	0.812	0.855	0.833	0.797	0.836	0.816	2.237	1.030	0.016
CHANCE	7	0.725	0.797	0.761	0.449	0.319	0.384	0.710	0.609	0.659	0.628	0.575	0.601	24.429***	1.361	1.935
END	14	0.841	0.793	0.812	0.855	0.855	0.855	0.783	0.710	0.746	0.826	0.783	0.804	2.632	1.248	0.323
FILL	3	0.855	0.754	0.804	0.304	0.406	0.355	0.841	0.768	0.804	0.667	0.643	0.655	51.093***	0.332	2.286
FREE	6	0.782	0.729	0.761	0.536	0.605	0.572	0.783	0.812	0.797	0.700	0.720	0.710	10.120***	0.195	0.587
GAME	4	0.826	0.797	0.812	0.174	0.116	0.145	0.870	0.855	0.862	0.623	0.589	0.606	65.782***	0.887	0.127
GRAVE	13	0.783	0.783	0.783	0.145	0.275	0.210	0.638	0.638	0.638	0.522	0.565	0.543	64.207***	1.028	1.028
LINE	8	0.870	0.899	0.884	0.797	0.812	0.804	0.797	0.797	0.797	0.821	0.816	0.829	2.254	0.152	0.051
LIVE	11	0.855	0.797	0.826	0.725	0.768	0.746	0.812	0.797	0.804	0.79	0.787	0.792	1.417	0.059	0.540
MILL	17	0.710	0.710	0.710	0.203	0.217	0.210	0.826	0.826	0.826	0.530	0.585	0.582	84.806***	0.014	0.014
NAME	19	0.884	0.928	0.906	0.870	0.826	0.848	0.768	0.826	0.797	0.841	0.860	0.850	3.224*	0.305	0.821
PAGE	18	0.870	0.855	0.862	0.232	0.362	0.297	0.797	0.797	0.797	0.633	0.671	0.652	80.443***	0.942	1.340
PRIVATE	10	0.735	0.812	0.775	0.609	0.435	0.522	0.681	0.739	0.710	0.676	0.662	0.669	21.418***	0.104	3.145*
SEASON	12	0.899	0.783	0.841	0.580	0.667	0.623	0.565	0.449	0.507	0.681	0.633	0.657	19.148***	1.170	2.294
SIGHT	20	0.783	0.841	0.812	0.391	0.420	0.406	0.739	0.870	0.804	0.638	0.710	0.674	40.290***	2.942	0.510
SKIRT	15	0.826	0.812	0.819	0.145	0.174	0.159	0.681	0.681	0.681	0.551	0.556	0.553	98.882***	0.014	0.100
STRANGER	5	0.826	0.768	0.797	0.275	0.449	0.362	0.826	0.739	0.783	0.643	0.652	0.647	45.023***	0.052	3.773*
TAKE	1	0.841	0.812	0.826	0.261	0.203	0.232	0.812	0.841	0.826	0.638	0.618	0.628	103.446***	0.246	0.431
TRAIN	16	0.826	0.826	0.826	0.609	0.623	0.616	0.696	0.696	0.696	0.710	0.715	0.713	7.758***	0.012	0.012
WISH	21	0.812	0.812	0.812	0.884	0.826	0.855	0.652	0.725	0.688	0.783	0.787	0.785	6.233**	0.015	0.891

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 1, GRADE 3, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE,
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM	FORM	WORDS IN HIGH MGF A	V	E	H	FORM	WORDS IN LOW MGF A	V	E	H	FORM	WORDS IN ANOMALOUS USAGE A	V	E	H
AGE	2	A	8.70	7.32	14.60	6.08	C	8.57	6.63	15.87	6.59	B	8.60	7.19	15.19	5.79
			-0.013	0.579	0.882	0.451		-0.090	0.036	0.148	0.162		-0.137	0.509	0.749	0.341
BROKE	9	A	8.69	6.99	14.39	6.04	C	8.60	6.90	16.24	6.27	B	8.60	6.94	15.23	5.89
			-0.048	0.457	0.939	0.565		-0.117	0.249	0.614	0.222		-0.123	0.307	0.809	0.426
CHANCE	7	B	8.59	5.82	15.18	5.71	A	8.72	5.86	13.74	4.66	C	8.63	7.14	16.46	6.88
			-0.128	0.149	0.563	0.219		0.023	-0.220	0.057	-0.167		-0.011	0.293	0.565	0.393
END	14	A	8.69	7.27	14.61	6.22	C	8.57	7.04	16.03	6.53	B	8.60	7.28	15.32	6.16
			-0.075	0.578	0.945	0.577		-0.368	0.516	0.719	0.581		-0.079	0.423	0.632	0.437
FILL	3	B	8.57	7.32	15.27	6.11	C	8.63	5.92	14.35	3.94	A	8.69	7.12	14.48	5.99
			-0.253	0.561	0.745	0.515		0.003	-0.134	-0.277	-0.377		-0.043	0.448	0.804	0.404
FREE	6	A	8.67	7.35	14.53	6.09	B	8.57	7.15	15.19	6.11	C	8.61	7.09	16.37	6.64
			-0.144	0.525	0.718	0.394		-0.124	0.216	0.339	0.260		-0.094	0.422	0.814	0.473
GAME	4	B	8.61	7.09	15.41	5.76	A	8.70	5.00	12.60	3.50	C	8.61	6.94	16.18	6.17
			-0.077	0.395	0.895	0.430		-0.003	-0.246	-0.177	-0.274		-0.156	0.441	0.911	0.273
GRAVE	13	C	8.56	7.25	16.10	6.59	A	8.76	5.66	13.41	4.86	B	8.68	6.98	15.68	5.91
			-0.312	0.503	0.562	0.421		0.066	-0.160	-0.028	-0.087		0.159	0.174	0.645	0.226
LINE	8	C	8.59	6.75	15.94	6.06	B	8.59	7.23	15.14	6.18	A	8.71	7.22	14.66	6.30
			-0.286	0.301	0.751	0.212		-0.132	0.492	0.636	0.561		0.028	0.507	0.935	0.592
LIVE	11	B	8.60	7.05	14.93	5.75	C	3.64	6.59	15.78	6.19	A	8.70	7.12	14.47	6.16
			-0.137	0.391	0.496	0.310		-0.132	0.062	0.276	0.175		-0.001	0.448	0.796	0.51C
MILL	17	C	8.55	7.49	16.62	.93	B	2.76	4.93	12.93	3.21	A	8.72	6.95	14.40	5.93
			-0.258	0.516	0.748	0.474		0.157	-0.315	-0.323	-0.341		0.085	0.355	0.818	0.402
NAME	19	B	8.59	6.81	14.93	5.45	A	8.66	6.86	14.50	5.97	C	8.57	6.88	16.28	6.35
			-0.267	0.312	0.531	0.164		-0.111	0.320	1.014	0.486		-0.255	0.277	0.741	0.301
PAGE	13	A	8.71	6.90	14.30	5.92	B	8.73	6.66	14.37	5.24	C	8.57	7.00	16.31	6.37
			0.019	0.385	0.879	0.477		0.148	0.016	-0.012	-0.013		-0.255	0.359	0.763	0.317
PRIVATE	10	B	8.62	6.73	15.12	5.94	C	8.67	7.50	16.24	7.56	A	8.65	7.33	14.52	6.09
			-0.020	0.096	0.548	0.363		0.074	0.329	0.327	0.471		-0.167	0.431	0.600	0.337
SEASON	12	A	8.72	6.99	14.41	5.97	B	8.67	6.97	15.23	5.88	C	8.63	6.63	16.26	6.56
			0.071	0.421	0.882	0.466		0.134	0.162	0.402	0.209		-0.004	0.045	0.325	0.192
SIGHT	20	C	8.67	7.00	16.29	6.42	A	8.90	6.21	14.07	5.71	B	8.55	6.93	15.07	5.85
			-0.110	0.387	0.860	0.367		0.170	-0.080	0.164	0.079		-0.341	0.259	0.573	0.346
SKIRT	15	C	8.56	7.22	15.19	6.53	A	8.77	3.77	12.36	1.14	B	8.54	7.27	15.64	6.28
			-0.355	0.565	0.731	0.452		0.026	-0.459	-0.229	-0.638		-0.245	0.339	0.699	0.409
STRANGER	5	C	8.50	7.15	16.14	6.74	B	8.56	5.74	14.58	4.58	A	8.69	7.05	14.49	6.29
			-0.013	-0.467	0.785	0.531		0.057	-0.214	0.048	-0.157		-0.076	0.361	0.746	0.550
TAKE	1	B	8.59	7.17	15.23	5.90	A	8.81	6.13	13.41	4.56	C	8.61	6.96	16.04	6.40
			-0.181	0.487	0.833	0.423		0.135	-0.076	-0.031	-0.143		-0.083	0.374	0.612	0.382
TRAIN	16	B	8.61	6.51	16.20	6.06	B	8.65	6.81	15.40	5.64	A	8.74	7.03	14.75	6.48
			-0.061	0.060	0.771	0.153		0.062	0.095	0.516	0.116		0.118	0.263	0.710	0.499
WISH	21	A	8.69	6.77	14.48	6.11	C	8.59	7.07	16.26	6.41	B	8.53	7.64	15.62	6.47
			-0.118	0.194	0.834	0.447		-0.219	0.540	0.964	0.449		-0.300	0.538	0.703	0.503
MEANS BY FORM		A	8.70	6.51	13.54	5.28	B	9.62	6.59	14.41	5.31	C	8.63	6.49	15.36	5.83
S.G.'S BY FORM			0.62	3.21	3.38	4.36		0.64	3.42	3.34	4.50		0.84	4.04	3.50	4.19
N			133.00					136.00					138.00			

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 2, GRADE 6, ALL CASES

		WORDS IN HIGH MGF					WORDS IN LOW MGF						WORDS IN ANOMALOUS USAGE				
ITEM	WORD	FCRM	1(R)	2(W)	N,I	TCT.	FORM	1(R)	2(W)	N,I	TOT.	Z(D(R))	FORM	1(W)	2(R)	N,I	TOT.
2	AGE	A	73 / 0.912	7 / 0.087	0 / 0.0	80	C	64 / 0.800	15 / 0.188	1 / 0.012	80	2.03*	B	2 / 0.025	78 / 0.975	0 / 0.0	80
9	BROKE	A	79 / 0.987	1 / 0.012	0 / 0.0	80	C	66 / 0.825	13 / 0.162	1 / 0.012	80	3.53***	B	3 / 0.037	77 / 0.962	0 / 0.0	80
7	CHANCE	B	73 / 0.912	7 / 0.087	0 / 0.0	80	A	42 / 0.525	38 / 0.475	0 / 0.0	80	5.45***	C	14 / 0.175	65 / 0.813	1 / 0.012	80
14	END	A	78 / 0.975	2 / 0.025	0 / 0.0	80	C	75 / 0.938	3 / 0.037	2 / 0.025	80	1.16	B	6 / 0.075	74 / 0.925	0 / 0.0	80
3	FILL	B	74 / 0.925	6 / 0.075	0 / 0.0	80	C	14 / 0.175	65 / 0.813	1 / 0.012	80	9.53***	A	4 / 0.050	76 / 0.950	0 / 0.0	80
6	FREE	A	74 / 0.925	6 / 0.075	0 / 0.0	80	B	69 / 0.862	11 / 0.137	0 / 0.0	80	1.28	C	3 / 0.037	75 / 0.950	2 / 0.025	80
4	GAME	B	80 / 1.000	0 / 0.0	0 / 0.0	80	A	20 / 0.250	60 / 0.750	0 / 0.0	80	9.80***	C	6 / 0.075	73 / 0.912	1 / 0.012	80
13	GRAVE	C	76 / 0.950	3 / 0.037	1 / 0.012	80	A	32 / 0.400	48 / 0.600	0 / 0.0	80	7.63**	B	18 / 0.225	62 / 0.775	0 / 0.0	80
8	LINE	C	78 / 0.975	1 / 0.012	1 / 0.012	80	B	72 / 0.900	8 / 0.100	0 / 0.0	80	1.96	A	5 / 0.063	74 / 0.925	1 / 0.012	80
11	LIVE	B	77 / 0.962	3 / 0.037	0 / 0.0	80	C	63 / 0.787	16 / 0.200	1 / 0.012	80	3.35***	A	7 / 0.087	73 / 0.912	0 / 0.0	80
17	MILL	C	74 / 0.925	5 / 0.063	1 / 0.012	80	B	24 / 0.300	56 / 0.700	0 / 0.0	80	8.11***	A	7 / 0.087	73 / 0.912	0 / 0.0	80
19	NAME	B	80 / 1.000	0 / 0.0	0 / 0.0	80	A	75 / 0.938	5 / 0.063	0 / 0.0	80	2.27*	C	4 / 0.050	75 / 0.938	1 / 0.012	80
18	PAGE	A	77 / 0.962	3 / 0.037	0 / 0.0	80	B	41 / 0.512	38 / 0.475	1 / 0.012	80	6.47***	C	5 / 0.063	74 / 0.925	1 / 0.012	80
10	PRIVATE	B	73 / 0.912	7 / 0.087	0 / 0.0	80	C	62 / 0.775	16 / 0.200	2 / 0.025	80	2.40*	A	11 / 0.137	69 / 0.862	0 / 0.0	80
12	SEASON	A	75 / 0.938	5 / 0.063	0 / 0.0	80	B	64 / 0.800	15 / 0.188	1 / 0.012	80	2.58*	C	28 / 0.350	51 / 0.637	1 / 0.012	80
20	SIGHT	C	73 / 0.912	5 / 0.063	2 / 0.025	80	A	46 / 0.575	34 / 0.425	0 / 0.0	80	4.89***	B	5 / 0.063	74 / 0.925	1 / 0.012	80
15	SKIRT	C	74 / 0.925	4 / 0.050	2 / 0.025	80	A	11 / 0.137	69 / 0.862	0 / 0.0	80	9.98***	B	5 / 0.063	75 / 0.938	0 / 0.0	80
5	STRANGER	C	76 / 0.950	3 / 0.037	1 / 0.012	80	B	35 / 0.438	45 / 0.563	0 / 0.0	80	7.03***	A	10 / 0.125	70 / 0.875	0 / 0.0	80
1	TAKE	B	74 / 0.925	6 / 0.075	0 / 0.0	80	A	16 / 0.200	64 / 0.800	0 / 0.0	80	4.24***	C	2 / 0.025	77 / 0.962	1 / 0.012	80
16	TRAIN	C	71 / 0.887	8 / 0.100	1 / 0.012	80	B	64 / 0.800	15 / 0.188	1 / 0.012	80	1.52	A	13 / 0.162	67 / 0.837	0 / 0.0	80
21	WISH	A	71 / 0.887	8 / 0.100	1 / 0.012	80	C	77 / 0.962	1 / 0.012	2 / 0.025	80	-1.80	B	5 / 0.063	75 / 0.938	0 / 0.0	80
	COLUMN SUMS		1580 / 0.940	90 / 0.054	10 / 0.006	1680		1032 / 0.614	635 / 0.378	13 / 0.008	1680			163 / 0.097	1507 / 0.897	10 / 0.006	1680

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 1, GRADE 6, ALL CASES

ANALYSIS OF VARIANCE OF F-H FORM COMBINATIONS--EVALUATION ITEM SCORES

WORD	ITEM	E(HIGH)			E(LCH)			E(ANGM.)			ALL CASES			EVAL. F(2,234)	HEADL. F(1,234)	E*H F(2,234)
		H(H)	H(L)	M	H(H)	H(L)	M	H(H)	H(L)	M	H(H)	H(L)	M			
ACE	2	0.925	0.900	0.912	0.775	0.825	0.800	1.000	0.950	0.975	0.900	0.892	0.896	7.022**	0.046	0.603
BROKE	9	1.000	0.975	0.987	0.825	0.825	0.825	1.000	0.925	0.962	0.942	0.908	0.925	9.368***	1.020	0.446
CHANCE	7	0.950	0.875	0.912	0.550	0.500	0.525	0.775	0.850	0.813	0.758	0.742	0.750	19.806***	0.102	0.790
END	14	0.975	0.975	0.975	0.950	0.925	0.938	0.925	0.925	0.925	0.950	0.942	0.946	1.041	0.080	0.080
FILL	3	0.950	0.900	0.925	0.175	0.175	0.175	0.950	0.950	0.950	0.692	0.675	0.683	174.144***	0.187	0.187
FREE	6	0.925	0.925	0.925	0.925	0.800	0.862	0.925	0.950	0.936	0.925	0.892	0.908	1.558	0.804	1.555
GAME	4	1.000	1.000	1.000	0.275	0.225	0.250	0.950	0.875	0.912	0.742	0.700	0.721	148.329***	1.148	0.322
GRAVE	13	1.000	0.900	0.950	0.300	0.500	0.400	0.875	0.675	0.775	0.725	0.692	0.709	42.051***	0.444	5.770***
LINE	8	1.000	0.950	0.975	0.925	0.875	0.900	0.950	0.900	0.925	0.958	0.908	0.933	1.876	2.412	0.000
LIVE	11	0.975	0.950	0.962	0.775	0.800	0.787	0.950	0.875	0.912	0.900	0.875	0.887	6.753**	0.390	0.519
MILL	17	0.900	0.950	0.925	0.400	0.200	0.300	0.900	0.925	0.912	0.733	0.692	0.712	85.730***	0.874	3.183*
NAME	19	1.000	1.000	1.000	0.975	0.900	0.936	0.975	0.900	0.938	0.983	0.933	0.958	2.664	3.836	0.959
PAGE	18	0.950	0.975	0.962	0.575	0.450	0.512	0.950	0.900	0.925	0.825	0.775	0.800	41.607***	1.251	0.938
PRIVATE	10	0.950	0.875	0.912	0.775	0.775	0.775	0.875	0.850	0.862	0.867	0.832	0.850	3.053*	0.525	0.230
SEASON	12	0.975	0.900	0.938	0.900	0.700	0.800	0.625	0.650	0.637	0.833	0.750	0.792	12.045***	2.782	1.697
SIGHT	20	0.925	0.900	0.912	0.600	0.550	0.575	0.975	0.875	0.925	0.833	0.775	0.804	23.637***	1.530	0.219
SKIRT	15	0.950	0.900	0.925	0.125	0.150	0.137	0.950	0.925	0.938	0.675	0.658	0.667	200.111***	0.198	0.347
STRANGER	5	0.950	0.950	0.950	0.500	0.375	0.438	0.875	0.875	0.875	0.675	0.733	0.754	44.925***	0.763	0.764
TAKE	1	0.975	0.875	0.925	0.275	0.125	0.200	1.000	0.925	0.962	0.750	0.642	0.696	168.905***	6.046**	0.333
TRAIN	16	0.925	0.850	0.887	0.900	0.700	0.800	0.850	0.825	0.837	0.892	0.792	0.842	1.173	4.565*	1.237
WISH	21	0.950	0.825	0.887	0.975	0.950	0.962	0.975	0.900	0.938	0.967	0.892	0.929	1.805	5.221*	0.774

TABLE ?. DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 1, GRADE 6, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE,
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM		WORDS IN HIGH MGF					WORDS IN LOW MGF					WORDS IN ANOMALOUS USAGE			
		FORM	A	V	E	H	FORM	A	V	E	H	FORM	A	V	E	H
AGE	2	A	11.73	13.10	16.25	11.38	C	11.48	13.42	18.56	12.45	B	11.74	13.09	17.82	12.54
			-0.094	0.576	0.909	0.723		-0.455	0.248	0.643	0.388		-0.143	0.641	0.954	0.799
BROKE	9	A	11.73	12.70	15.99	10.72	C	11.59	13.29	18.41	11.82	B	11.70	13.23	17.90	12.64
			-0.143	0.588	1.330	0.590		0.017	0.154	0.550	0.091		-0.606	0.802	1.064	0.762
CHANCE	7	B	11.68	13.38	17.97	12.70	A	11.86	13.50	16.69	11.05	C	11.54	13.94	18.51	12.32
			-0.430	0.567	0.710	0.432		0.225	0.240	0.467	0.095		-0.229	0.564	0.622	0.344
END	14	A	11.73	12.79	15.95	10.65	C	11.57	13.03	18.31	11.85	B	11.73	13.31	17.88	12.65
			-0.158	0.652	0.446	0.143		-0.168	0.077	1.044	0.263		-0.072	0.550	0.542	0.438
FILL	3	B	11.76	13.20	18.03	12.88	C	11.64	12.93	18.36	11.50	A	11.71	12.91	16.12	11.01
			0.179	0.405	0.964	0.690		0.058	-0.006	0.104	-0.717		-0.354	0.575	0.939	0.613
FREE	6	A	11.70	12.92	16.22	11.05	B	11.64	13.32	.3.12	13.14	C	11.56	13.12	18.32	11.87
			-0.324	0.422	0.548	0.478		-0.556	0.335	0.728	0.588		-0.325	0.215	1.079	0.281
GAME	4	B	11.74	12.90	17.69	12.25	A	11.65	14.95	16.30	11.05	C	11.55	13.21	18.48	12.08
			-9.999	-9.999	-9.999	-9.999		-0.098	0.374	0.143	-0.057		-0.352	0.257	1.128	0.421
GRAVE	13	C	11.58	13.05	18.25	11.74	A	11.65	14.66	16.75	11.56	B	11.76	13.87	18.35	13.65
			-0.122	0.139	1.080	0.136		-0.120	0.431	0.394	0.730		0.076	0.512	0.783	0.604
LINE	8	C	11.58	13.04	18.14	11.69	B	11.71	13.22	18.00	12.88	A	11.72	13.03	16.15	11.09
			-0.271	0.204	1.309	0.118		-0.213	0.338	0.695	-0.537		-0.198	0.566	0.754	0.520
LIVE	11	B	11.73	13.06	17.82	12.47	C	11.60	13.54	18.46	11.94	A	11.73	12.74	16.16	10.75
			-0.171	0.396	0.667	0.429		0.066	0.297	0.514	-0.132		-0.094	0.162	0.701	0.142
MILL	17	C	11.58	13.19	18.20	11.74	B	11.63	14.79	18.67	14.17	A	11.70	12.97	16.21	11.21
			-0.065	0.272	0.658	0.103		-0.135	0.333	0.366	0.277		-0.318	0.433	3.805	0.559
NAME	19	B	11.74	12.90	17.69	12.25	A	11.73	12.69	16.19	10.96	C	11.56	13.08	18.37	11.87
			-9.599	-9.999	-9.999	-9.999		-0.045	0.144	1.008	0.442		-0.325	0.156	1.221	0.281
PAGE	18	A	11.71	12.75	16.03	10.95	B	11.49	14.39	18.27	13.29	C	11.57	13.03	18.14	11.64
			-0.389	0.365	0.718	0.657		-0.457	0.391	0.324	0.225		-0.202	0.066	0.505	-0.016
PRIVATE	10	B	11.71	13.37	17.95	12.74	C	11.50	13.56	18.60	12.68	A	11.65	13.01	16.20	11.12
			-0.206	0.551	0.642	0.472		-0.350	0.295	0.612	0.449		-0.476	0.328	0.544	0.325
SEASON	12	A	11.72	12.91	16.24	11.04	B	11.63	13.58	18.41	13.31	C	11.51	14.84	18.76	13.02
			-0.190	0.474	1.197	0.540		-0.457	0.395	0.890	0.508		-0.204	0.617	0.502	0.394
SIGHT	20	C	11.55	13.11	18.52	12.14	A	11.80	13.04	16.46	11.80	B	11.72	13.22	17.93	12.76
			-0.352	0.150	1.210	0.474		0.140	0.132	0.368	0.284		-0.198	0.423	0.696	0.556
SKIRT	15	C	11.55	13.32	18.41	12.31	A	11.82	11.09	15.91	9.45	B	11.71	13.11	17.87	12.69
			-0.339	0.444	1.118	0.733		0.072	-0.191	0.006	-0.115		-0.335	0.323	0.594	0.568
STRANGER	5	C	11.55	13.14	18.33	11.89	B	11.89	13.74	18.51	13.94	A	11.66	13.19	16.31	11.34
			-0.498	0.304	1.332	0.383		0.234	0.191	0.398	0.315		-0.486	0.503	0.798	0.506
TAKE	1	B	11.76	13.20	17.86	12.66	A	11.38	14.13	17.38	10.88	C	11.56	13.04	18.34	11.96
			0.179	0.405	0.504	0.452		-0.368	0.220	0.468	0.032		-0.529	0.146	1.733	0.620
TRAIN	16	C	11.55	13.14	18.46	12.10	B	11.72	13.16	18.17	13.14	A	11.69	13.09	16.22	11.01
			-0.274	0.149	0.888	0.353		-0.076	0.149	0.600	0.426		-0.247	0.337	0.504	0.227
WISH	21	A	11.76	13.07	15.10	11.14	C	11.57	13.01	18.23	11.73	B	11.76	13.13	17.91	12.69
			0.152	0.442	0.432	0.403		-0.293	0.087	1.309	0.154		0.245	0.364	0.727	0.568
MEANS BY FORM		A	11.74	12.60	15.89	10.60	B	11.7	12.90	17.69	12.25	C	11.59	12.97	17.91	11.65
S.D.'S BY FORM			0.70	4.94	2.27	6.23		0.70	4.90	2.31	5.97		0.65	5.15	2.89	5.90
N			80.00					80.00					80.00			

TABLE 5.- DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 2, GRADE 6, ALL CASES

WORD	ITEM		----WORDS IN HIGH MGF----					----WORDS IN LOW MGF----						--WORDS IN ANOMALOUS USAGE--				
		FORM	1(R)	Z(W)	N,I	TOT.	FORM	1(R)	Z(W)	N,I	TOT.	Z(D(R))	FORM	1(W)	Z(R)	N,I	TOT.
HOSPITAL	5	C	77	34 0.304	1 0.009	112	A	81 0.723	31 0.277	0 0.0	112	-0.59	B	33 0.295	79 0.705	0 0.0	112
MATTRESS	13	A	98	14 0.125	0 0.0	112	B	53 0.473	59 0.527	0 0.0	112	6.41***	C	10 0.089	101 0.902	1 0.009	112
PUBLIC	16	C	96 0.857	16 0.143	0 0.0	112	A	83 0.741	29 0.259	0 0.0	112	2.17*	B	19 0.170	91 0.813	2 0.018	112
GUY	20	A	105 0.938	7 0.063	0 0.0	112	B	86 0.768	24 0.214	2 0.018	112	3.58***	C	12 0.107	100 0.893	0 0.0	112
CHANNEL	2	B	87 0.777	25 0.223	0 0.0	112	A	38 0.339	72 0.643	2 0.018	112	6.59***	C	19 0.170	93 0.830	0 0.0	112
DRUG	18	B	106 0.946	5 0.045	1 0.009	112	C	75 0.670	35 0.313	0 0.0	112	5.26***	A	8 0.071	103 0.920	1 0.009	112
HEDGE	12	A	104 0.929	7 0.063	1 0.009	112	C	44 0.393	68 0.607	0 0.0	112	8.47***	B	14 0.125	98 0.875	0 0.0	112
HUM	6	C	97 0.866	15 0.134	0 0.0	112	B	89 0.786	23 0.205	0 0.009	112	1.59	A	19 0.170	93 0.830	0 0.0	112
INCENSE	1	A	60 0.536	51 0.455	2 0.009	112	B	60 0.536	52 0.464	0 0.0	112	0.0	C	43 0.384	68 0.607	1 0.009	112
MINT	3	B	85 0.759	26 0.232	1 0.009	112	C	91 0.813	21 0.188	0 0.0	112	-0.98	A	13 0.116	99 0.884	0 0.0	112
MOTOR	17	A	103 0.920	9 0.080	0 0.0	112	C	18 0.161	94 0.839	0 0.0	112	11.40***	B	14 0.125	96 0.857	2 0.018	112
PLANE	9	B	107 0.955	5 0.045	0 0.0	112	A	32 0.286	80 0.714	0 0.0	112	10.33***	C	16 0.143	96 0.857	0 0.0	112
PULL	14	C	60 0.536	51 0.455	1 0.009	112	C	74 0.214	88 0.786	0 0.0	112	4.97***	A	12 0.107	99 0.884	1 0.009	112
POLICE	19	C	103 0.920	8 0.071	0 0.009	112	B	49 0.438	62 0.554	1 0.009	112	7.73***	A	8 0.071	104 0.929	0 0.0	112
SCARE	7	C	87 0.777	25 0.223	0 0.0	112	A	82 0.732	30 0.268	0 0.0	112	0.76	B	14 0.125	98 0.875	0 0.0	112
SNAKE	11	C	107 0.955	4 0.036	1 0.009	112	B	38 0.339	74 0.661	0 0.0	112	9.65***	A	9 0.080	101 0.902	2 0.018	112
SPEAR	15	B	105 0.938	7 0.063	0 0.0	112	A	98 0.875	14 0.125	0 0.0	112	1.60	C	40 0.357	70 0.625	2 0.018	112
SWAMP	8	C	105 0.630	7 0.063	0 0.0	112	A	52 0.464	59 0.527	1 0.009	112	7.73***	B	31 0.277	81 0.723	0 0.0	112
TWINE	4	C	93 0.830	13 0.151	0 0.009	112	A	62 0.554	48 0.429	2 0.018	112	4.49***	B	22 0.196	90 0.804	0 0.0	112
WORRY	10	A	96 0.857	15 0.134	1 0.009	112	B	67 0.598	44 0.393	1 0.009	112	4.35***	C	15 0.134	97 0.866	0 0.0	112
YELL	21	B	94 0.884	13 0.116	0 0.0	112	C	87 0.777	25 0.223	0 0.0	112	2.14*	A	7 0.063	105 0.938	0 0.0	112
COLUMN SUMS			1320 0.642	362 0.154	10 0.004	2352		1308 0.556	1032 0.439	12 0.005	2352			378 0.161	1962 0.834	12 0.005	2352

LEVEL 2, GRADE 6, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS--EVALUATION ITEM SCORES

ITEM		E(HIGH) H(H) H(L) X	E(LOW) H(H) H(L) M	E(ANCM.) H(H) H(L) M	ALL CASES H(H) H(L) M	EVAL. F(2,330)	HEADL. F(1,330)	E*H F(2,330)
ABBER?	5	0.714 0.661 0.688	0.732 0.714 0.723	0.696 0.714 0.705	0.714 0.696 0.705	0.169	0.127	0.169
MOTHER	13	0.893 0.957 0.875	0.482 0.464 0.473	0.911 0.893 0.902	0.762 0.738 0.750	42.575***	0.314	0.020
BUBBLE	16	0.839 0.875 0.857	0.732 0.750 0.741	0.857 0.768 0.813	0.810 0.798 0.804	2.436	0.076	0.812
BUY	20	0.929 0.946 0.938	0.750 0.786 0.768	0.911 0.875 0.893	0.863 0.869 0.866	7.691***	0.026	0.344
CHANNEL	2	0.768 0.786 0.777	0.321 0.357 0.339	0.893 0.768 0.830	0.661 0.637 0.649	44.837***	0.263	1.199
DRUG	18	0.911 0.982 0.946	0.732 0.607 0.670	0.929 0.911 0.920	0.857 0.833 0.845	22.582***	0.412	2.343
HEDGE	12	0.964 0.893 0.929	0.536 0.250 0.393	0.839 0.911 0.875	0.780 0.685 0.732	73.423***	5.738*	6.813**
HUM	6	0.875 0.857 0.866	0.714 0.857 0.786	0.839 0.821 0.830	0.810 0.845 0.827	1.274	0.752	1.691
INCENSE	1	0.589 0.482 0.536	0.482 0.589 0.536	0.589 0.625 0.607	0.554 0.565 0.560	0.769	0.048	1.346
KNOT	3	0.679 0.839 0.759	0.875 0.750 0.813	0.911 0.857 0.884	0.821 0.815 0.818	3.041*	0.021	4.273*
MOTOR	17	0.946 0.893 0.920	0.161 0.161 0.161	0.839 0.875 0.857	0.649 0.643 0.646	177.376***	0.027	0.505
PLANE	8	0.982 0.929 0.955	0.250 0.321 0.286	0.804 0.911 0.857	0.679 0.720 0.699	118.449***	1.180	1.613
POLL	14	0.571 0.500 0.536	0.179 0.250 0.214	0.946 0.821 0.884	0.565 0.524 0.545	72.120***	0.837	1.657
POLICE	19	0.946 0.893 0.920	0.446 0.429 0.438	0.946 0.911 0.929	0.780 0.744 0.762	67.635***	0.820	0.068
SCAB	7	0.786 0.768 0.777	0.696 0.768 0.732	0.893 0.857 0.875	0.792 0.798 0.795	3.694*	0.018	0.570
SNAKE	11	0.646 0.864 0.955	0.232 0.446 0.339	0.929 0.875 0.902	0.702 0.762 0.732	112.019***	2.556	4.626*
SPEAR	15	0.911 0.964 0.938	0.875 0.875 0.875	0.625 0.625 0.625	0.804 0.821 0.813	22.467***	0.196	0.197
SWAMP	9	0.911 0.964 0.938	0.536 0.393 0.464	0.732 0.714 0.723	0.726 0.690 0.708	36.941***	0.629	1.626
TRINE	4	0.768 0.893 0.830	0.571 0.536 0.554	0.750 0.857 0.804	0.696 0.762 0.729	14.275***	1.970	1.188
WORRY	10	0.929 0.786 0.857	0.571 0.625 0.598	0.857 0.875 0.866	0.786 0.762 0.774	16.151***	0.297	1.910
YELL	21	0.857 0.911 0.884	0.875 0.679 0.777	0.964 0.911 0.938	0.899 0.833 0.866	6.831**	3.280	4.012*

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 2, GRADE 6, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE,
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM	FORM	WORDS IN HIGH MGF				FORM	WORDS IN LOW MGF				FORM	WORDS IN ANOMALOUS USAGE			
			A	V	E	H		A	V	E	H		A	V	E	H
APPEAL	5	C	11.57	12.73	15.88	8.51	A	11.66	13.70	16.64	9.01	B	11.69	13.09	16.16	8.97
			-0.051	0.104	0.332	-0.124		-0.166	0.169	0.478	0.060		-0.181	0.462	0.619	0.411
OTHER	13	1	11.60	13.65	16.50	9.54	B	11.81	11.53	15.91	7.98	C	11.54	13.09	15.87	9.53
			-0.347	0.284	0.713	0.443		-0.128	-0.101	0.241	0.004		-0.345	0.637	0.866	0.552
ARRIVE	15	0	11.54	13.17	15.67	9.39	A	11.61	13.45	16.48	8.70	B	11.66	12.27	15.73	8.49
			-0.326	0.520	0.333	0.370		-0.140	0.058	0.369	-0.073		-0.225	0.292	0.463	0.318
AID	25	A	11.63	13.50	16.36	9.36	B	11.66	12.24	15.63	9.22	C	11.54	13.11	15.80	9.30
			-0.292	0.434	0.886	0.718		-0.302	0.145	0.238	0.128		-0.353	0.681	0.672	0.396
CHANNEL	2	B	11.66	12.61	15.71	8.90	A	11.76	13.45	16.71	9.29	C	11.49	13.44	16.03	9.74
			-0.343	0.339	0.331	0.402		0.170	0.024	0.229	0.074		-0.460	0.621	0.748	0.536
CHASE	11	B	11.71	12.42	15.68	8.33	C	11.57	13.57	16.25	9.79	A	11.65	13.50	16.50	9.22
			-0.044	0.815	0.994	0.634		-0.044	0.396	0.576	0.317		-0.013	0.232	1.048	0.419
AMUSE	12	A	11.66	13.46	16.37	9.07	C	11.61	12.41	16.14	9.02	B	11.74	12.29	15.68	8.34
			0.131	0.196	0.800	0.250		0.037	-0.007	0.274	0.031		0.025	0.280	0.494	0.315
AWE	4	A	11.56	12.74	15.64	9.23	B	11.73	12.65	15.90	8.59	A	11.59	13.73	16.78	9.60
			-0.254	0.225	0.651	0.273		-0.057	0.371	0.536	0.336		-0.376	0.311	0.902	0.457
ROB	3	A	11.57	14.37	16.73	9.98	B	11.83	11.23	15.44	7.05	C	11.53	12.88	16.06	9.47
			-0.199	0.299	0.345	0.285		0.107	-0.194	0.608	-0.245		-0.140	0.131	0.376	0.179
MOTHER	8	B	11.68	12.73	16.60	8.95	C	11.50	12.11	16.04	9.16	A	11.66	13.39	16.46	9.26
			-0.210	0.375	0.582	0.479		-0.067	0.380	0.701	0.171		-0.036	0.067	0.599	0.340
BLAME	17	A	11.64	13.70	16.48	9.27	C	11.94	8.50	14.44	4.94	B	11.70	13.06	15.91	8.80
			-0.112	0.478	0.981	0.475		0.346	-0.493	-0.250	-0.475		-0.025	0.837	0.768	0.632
BOIL	9	B	11.74	12.12	15.45	7.93	A	11.59	12.53	16.00	8.25	C	11.55	13.07	15.88	9.77
			-0.043	0.336	0.255	-0.060		-0.049	-0.136	-0.017	-0.096		-0.209	0.452	0.636	0.640
POLICE	14	B	11.75	12.08	15.93	7.83	C	12.04	10.58	15.75	6.33	A	11.64	13.79	16.55	9.07
			0.018	0.034	0.287	-0.022		0.491	-0.260	0.088	0.342		-0.115	0.432	0.836	0.175
CRAWL	29	C	11.55	13.99	13.74	9.15	B	11.63	11.92	15.61	7.45	A	11.65	13.57	16.28	9.15
			-0.328	0.632	0.757	0.562		0.094	-0.003	0.098	-0.114		0.023	0.344	0.578	0.372
CRIME	7	A	11.52	13.72	16.20	10.05	A	11.65	13.70	16.52	9.91	B	11.66	12.61	15.85	8.42
			-0.277	0.632	0.561	0.571		-0.020	0.170	0.475	0.020		-0.507	0.556	0.762	0.384
SHAPE	21	B	11.41	12.57	15.58	9.04	C	11.79	11.92	16.26	8.66	A	11.64	13.54	16.55	9.34
			0.274	0.239	0.553	0.338		0.049	-0.006	0.316	0.128		-0.070	0.239	0.981	0.464
BUDDY	24	C	11.56	12.75	15.60	9.10	A	11.63	13.56	16.31	9.37	B	11.57	13.60	16.43	10.30
			-0.314	0.805	0.838	0.736		0.030	0.209	0.403	0.603		-0.044	0.362	0.627	0.439
BUMP	3	A	11.36	12.75	15.60	9.10	A	11.63	13.96	17.15	9.44	B	11.70	12.74	16.00	8.59
			-0.210	0.445	0.616	0.336		-0.033	0.153	0.484	0.128		-0.124	0.338	0.516	0.313
BUNCH	4	C	11.55	13.19	15.76	9.33	B	11.66	12.73	16.11	8.41	H	11.71	12.60	15.86	8.67
			-0.259	0.406	0.420	0.289		-0.022	-0.171	0.031	-0.200		-0.133	0.372	0.530	0.405
BURY	19	A	11.53	13.03	16.52	9.45	B	11.58	12.82	16.33	8.99	C	11.53	13.15	15.84	9.77
			-0.272	0.471	0.666	0.425		0.476	0.267	0.557	0.287		-0.377	0.540	0.611	0.678
YELL	21	B	11.47	12.49	15.44	8.74	C	11.55	12.97	16.05	9.41	A	11.63	13.70	16.41	9.13
			-0.516	0.496	0.797	0.596		-0.145	0.257	0.606	0.267		-0.292	0.600	1.023	0.387
MEANS BY FORM			11.65	13.32	16.05	9.17		11.74	11.96	15.38	7.96		11.59	12.45	15.44	8.86
S.D.S BY FORM			0.01	0.99	2.66	5.20		0.65	5.02	5.02	5.02		0.48	5.26	2.61	5.41
			112.00					112.00					112.00			

LEVEL 2, GRADE 9, ALL CASES

WORD	ITEM	\-\-\-\-\-WORDS IN HIGH MGF\-\-\-\-\-					\-\-\-\-\-WORDS IN LOW MGF\-\-\-\-\-						\-\-WORDS IN ANOMALOUS USAGE\-\-				
		FORM	1(R)	2(W)	N,I	TOT.	FORM	1(R)	2(W)	N,I	TOT.	Z(D(R))	FORM	1(W)	2(R)	N,I	TOT.
APPEAL	5	C	66 0.733	23 0.256	1 0.011	90	A	78 0.867	12 0.133	0 0.0	90	-2.24*	B	15 0.167	74 0.822	1 0.011	90
BOTHER	13	A	80 0.889	10 0.111	0 0.0	90	B	38 0.422	52 0.578	0 0.0	90	6.59***	C	4 0.044	85 0.944	1 0.011	90
BURGLE	15	C	82 0.911	7 0.078	1 0.011	90	A	77 0.856	12 0.133	1 0.011	90	1.16	R	24 0.267	65 0.722	1 0.011	90
BUY	20	A	87 0.967	3 0.033	0 0.0	90	B	79 0.878	11 0.122	0 0.0	90	2.23*	C	5 0.056	84 0.933	1 0.011	90
CHANNEL	2	B	82 0.911	8 0.089	0 0.0	90	A	48 0.533	42 0.467	0 0.0	90	5.66***	C	18 0.200	71 0.789	1 0.011	90
BADGE	16	B	90 1.000	0 0.0	0 0.0	90	C	78 0.867	11 0.122	1 0.011	90	3.59***	A	4 0.044	86 0.956	0 0.0	90
HEDGE	12	A	79 0.878	11 0.122	0 0.0	90	C	36 0.400	52 0.578	2 0.022	90	6.67***	B	11 0.122	78 0.867	1 0.011	90
HUM	4	C	84 0.933	6 0.067	0 0.0	90	B	77 0.856	12 0.133	1 0.011	90	1.70	A	12 0.133	78 0.867	0 0.0	90
INCENSE	1	A	74 0.822	16 0.178	0 0.0	90	B	29 0.322	56 0.644	3 0.033	90	6.78***	C	31 0.344	58 0.644	1 0.011	90
KNOT	3	R	72 0.800	17 0.189	1 0.011	90	C	70 0.778	19 0.211	1 0.011	90	0.37	A	6 0.067	84 0.933	0 0.0	90
MOTOR	17	A	85 0.944	5 0.056	0 0.0	90	C	29 0.322	60 0.667	1 0.011	90	8.66***	B	9 0.100	81 0.900	0 0.0	90
PLANT	8	B	87 0.967	3 0.033	0 0.0	90	A	49 0.544	41 0.456	0 0.0	90	6.59***	C	15 0.167	74 0.822	1 0.011	90
DOLL	14	A	80 0.889	10 0.111	0 0.0	90	B	33 0.367	56 0.622	1 0.011	90	7.25***	A	14 0.156	76 0.844	0 0.0	90
POLICE	19	C	90 1.000	0 0.0	0 0.0	90	A	71 0.789	19 0.211	0 0.0	90	4.61***	A	6 0.067	84 0.933	0 0.0	90
SCARE	7	C	80 0.889	10 0.111	0 0.0	90	A	72 0.800	17 0.189	1 0.011	90	1.65	B	8 0.089	82 0.911	0 0.0	90
SNAKE	11	C	86 0.956	1 0.011	3 0.033	90	B	50 0.556	40 0.444	0 0.0	90	6.24***	A	7 0.078	83 0.922	0 0.0	90
SOLAR	18	R	89 0.989	1 0.011	0 0.0	90	A	77 0.856	13 0.144	0 0.0	90	3.34**	C	20 0.222	70 0.778	0 0.0	90
SWAMP	9	C	88 0.978	2 0.022	0 0.0	90	A	62 0.689	28 0.311	0 0.0	90	5.20***	B	28 0.311	62 0.689	0 0.0	90
TWINE	6	C	82 0.911	6 0.067	2 0.022	90	A	47 0.522	42 0.467	1 0.011	90	5.79***	B	11 0.122	78 0.867	1 0.011	90
WOOLY	10	A	77 0.856	13 0.144	0 0.0	90	C	77 0.856	12 0.133	1 0.011	90	0.0	C	15 0.167	75 0.833	0 0.0	90
YELL	21	R	88 0.978	2 0.022	0 0.0	90	C	84 0.933	5 0.056	1 0.011	90	1.45	A	6 0.067	84 0.933	0 0.0	90
COLUMN SUMS			1728 0.914	154 0.081	8 0.004	1890		1261 0.667	614 0.325	15 0.008	1890			269 0.142	1612 0.853	9 0.005	1890

TABLE 5.2 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 2, GRADE 9, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS--EVALUATION ITEM SCORES

ITEM	TEST	E(HIGH) H(H)	H(L)	M	E(LOW) H(H)	H(L)	M	E(RANDM.) H(H)	H(L)	M	ALL CASES H(H)	H(L)	M	EVAL. F(2,264)	HEADL. F(11,264)	E*H F(2,264)
APPLE		0.778	0.690	0.733	0.911	0.822	0.867	0.778	0.867	0.822	0.822	0.793	0.807	2.696	0.385	1.540
HOTDOG		0.911	0.947	0.929	0.489	0.356	0.422	0.956	0.933	0.944	0.785	0.719	0.752	55.668***	2.256	0.585
APPLE		0.889	0.933	0.911	0.867	0.844	0.856	0.711	0.733	0.722	0.822	0.837	0.830	6.151**	0.107	0.188
BOY		0.956	0.978	0.967	0.867	0.893	0.878	0.911	0.956	0.933	0.911	0.941	0.926	2.649	0.865	0.054
CHAIR		0.889	0.933	0.911	0.444	0.622	0.533	0.822	0.756	0.789	0.719	0.770	0.744	20.148***	1.093	2.030
DOG		1.000	1.000	1.000	0.844	0.889	0.867	0.933	0.979	0.956	0.926	0.956	0.941	7.748***	1.107	0.277
HOUSE		0.889	0.867	0.878	0.511	0.289	0.400	0.844	0.889	0.867	0.748	0.681	0.715	43.638***	1.956	2.826
MAN		0.933	0.931	0.933	0.911	0.900	0.356	0.844	0.889	0.967	0.896	0.874	0.885	1.569	0.328	1.423
DOCTOR		0.944	0.800	0.822	0.311	0.333	0.322	0.689	0.600	0.644	0.615	0.578	0.596	29.690***	0.459	0.349
KNOT		0.800	0.800	0.800	0.778	0.778	0.778	0.933	0.933	0.933	0.837	0.837	0.837	4.730**	0.0	0.0
NURSE		0.911	0.978	0.944	0.267	0.376	0.322	0.889	0.911	0.900	0.689	0.756	0.722	89.219***	2.468	0.366
PLACE		1.000	0.933	0.967	0.556	0.533	0.544	0.844	0.800	0.822	0.800	0.756	0.778	28.626***	0.921	0.077
GIRL		0.956	0.956	0.889	0.356	0.378	0.367	0.844	0.844	0.844	0.674	0.726	0.700	48.343***	1.163	0.756
POLICE		1.000	1.000	1.000	0.867	0.711	0.789	0.889	0.978	0.933	0.919	0.896	0.907	13.928***	0.443	4.577*
SEAT		0.911	0.867	0.889	0.844	0.756	0.800	0.933	0.889	0.911	0.896	0.837	0.867	2.710	2.065	0.129
SNAKE		0.933	0.956	0.956	0.533	0.578	0.556	0.956	0.889	0.922	0.822	0.800	0.811	36.223***	0.272	0.626
SUGAR		0.889	0.878	0.989	0.867	0.844	0.855	0.711	0.844	0.778	0.859	0.889	0.874	9.941***	0.574	1.759
GRASS		1.000	1.000	1.000	0.778	0.600	0.689	0.733	0.644	0.689	0.822	0.748	0.785	16.691***	2.469	1.977
TABLE		0.911	0.911	0.911	0.633	0.356	0.522	0.844	0.859	0.867	0.756	0.778	0.767	26.943***	0.220	0.514
MONEY		0.867	0.856	0.856	0.867	0.844	0.656	0.672	0.844	0.833	0.852	0.844	0.848	0.113	0.028	0.113
YOU		1.000	1.000	1.000	0.978	0.933	0.956	0.978	0.889	0.933	0.956	0.941	0.948	1.223	0.307	3.986*

TABLE 5.4 ATD FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 2, GRADE 9, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE.
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM SHOW		WORDS IN HIGH MGF					WORDS IN LOW MGF					WORDS IN ANOMALOUS USAGE			
		FORM	A	V	E	H	FORM	A	V	E	H	FORM	A	V	E	H
APPEAL	5	C	14.53	19.26	17.15	11.71	A	14.74	18.65	17.65	12.22	B	14.59	19.30	17.56	13.62
			-0.359	0.220	0.377	0.117		-0.073	0.346	0.383	0.521		-0.088	0.659	0.743	0.751
MOTHER	13	A	14.75	18.49	17.90	12.16	A	14.55	18.11	17.71	12.45	C	14.62	18.16	16.94	11.81
			-0.049	0.225	0.900	0.561		-0.107	-0.038	0.359	-0.015		-0.129	0.657	0.728	0.591
BUNDLE	16	C	14.61	18.23	17.10	11.95	A	14.73	18.81	17.84	12.27	B	14.63	18.51	17.51	13.03
			-0.209	0.527	0.838	0.535		-0.162	0.454	0.639	0.523		0.072	0.101	0.515	0.240
GUY	20	A	14.76	18.25	17.66	11.75	B	14.63	18.54	17.16	12.57	C	14.61	18.45	17.15	12.02
			0.061	-0.074	1.244	0.596		-0.160	0.236	0.351	0.054		-0.296	1.035	1.235	0.774
CHANNEL	2	B	14.60	18.67	17.26	13.17	A	14.75	18.92	17.69	11.88	C	14.62	18.35	17.30	12.03
			-0.130	0.456	0.699	0.802		-0.011	0.196	0.146	0.092		-0.058	0.328	0.615	0.294
PEUG	18	B	14.61	18.28	16.99	12.51	C	14.67	18.14	17.12	11.86	A	14.73	18.47	17.53	11.64
			-9.999	-9.999	-9.999	-9.999		-0.209	0.291	0.622	0.314		-0.358	0.437	0.496	0.273
HITCH	12	A	14.73	18.49	17.86	12.23	C	14.61	18.00	17.58	12.14	B	14.62	18.69	17.27	12.83
			-0.141	0.214	0.764	0.568		-0.036	0.042	0.351	-0.049		0.029	0.341	0.520	0.273
HUM	6	C	14.62	17.98	16.92	11.50	B	14.64	18.34	17.18	12.79	A	14.72	18.97	17.95	12.26
			-0.161	0.253	0.554	0.112		0.161	0.046	0.334	0.227		-0.231	0.641	0.848	0.548
INTENSE	1	A	14.64	19.01	17.97	12.32	B	14.69	16.79	16.72	10.66	C	14.62	19.00	17.59	12.57
			-0.580	0.531	0.695	0.468		0.120	-0.273	-0.110	-0.358		-0.034	0.463	0.589	0.350
KNOT	3	B	14.60	19.58	17.57	13.64	C	14.64	18.64	17.46	12.37	A	14.73	18.54	17.65	11.77
			-0.067	0.763	0.755	0.691		0.039	0.486	0.755	0.437		-0.324	0.427	0.692	0.366
MOTOR	17	A	14.75	18.39	17.48	11.61	C	14.83	18.10	17.10	11.24	B	14.59	18.52	17.26	12.70
			-0.034	0.214	0.236	0.184		0.273	0.057	0.135	-0.027		-0.161	0.253	0.640	0.212
PLANE	9	D	14.62	18.23	17.09	12.40	A	14.71	18.69	17.90	11.96	C	14.62	18.41	17.23	12.47
			0.211	0.146	0.570	0.047		-0.087	0.131	0.263	0.115		-0.058	0.417	0.630	0.585
ROLL	14	B	14.59	18.76	17.20	13.17	C	14.55	17.48	17.45	11.70	A	14.68	18.67	18.09	12.70
			-0.188	0.466	0.457	0.668		-0.134	-0.075	0.281	0.049		-0.384	0.318	0.944	0.758
POLICE	19	C	14.63	17.82	16.72	11.41	B	14.61	19.24	17.44	13.18	A	14.75	18.50	17.53	11.73
			-9.999	-9.999	-9.999	-9.999		-0.025	0.537	0.563	0.393		-0.061	0.368	0.489	0.305
SCARE	7	C	14.63	18.42	17.17	12.13	A	14.75	18.67	17.78	11.99	B	14.61	18.51	17.24	12.66
			-0.061	0.642	0.836	0.585		-0.02	0.254	0.411	0.252		-0.013	0.272	0.647	0.179
SNAKE	11	C	14.63	18.08	16.88	11.50	B	14.60	18.60	17.64	13.40	A	14.76	18.37	17.83	11.90
			-0.086	0.600	0.649	0.158		-0.02	0.6.3	0.422	0.268		0.034	0.139	1.047	0.468
SPEAR	15	A	14.62	18.34	17.06	12.54	A	14.68	18.73	17.91	12.26	C	14.60	18.60	17.20	12.44
			0.391	0.409	1.045	0.204		-0.460	0.386	0.735	0.515		-0.136	0.461	0.491	0.470
SWAMP	8	C	14.64	17.95	16.32	11.51	A	14.66	18.95	18.02	12.66	B	14.61	18.97	17.56	13.15
			0.086	0.549	0.690	0.320		-0.281	0.301	0.463	0.406		0.006	0.276	0.518	0.265
THINK	4	C	14.63	18.09	16.99	11.76	A	14.74	17.87	17.77	11.94	B	14.63	18.72	17.29	12.90
			0.007	0.339	0.593	0.341		-0.022	-0.122	0.183	0.104		0.116	0.363	0.567	0.333
HONEY	10	B	14.71	18.71	17.91	12.06	B	14.60	18.42	17.25	12.88	C	14.59	18.36	17.23	12.23
			-0.237	0.375	0.735	0.385		-0.087	0.106	0.447	0.300		-0.243	0.406	0.662	0.474
YELL	21	B	14.61	18.27	16.99	12.48	C	14.61	18.15	16.98	11.57	A	14.75	18.44	17.64	11.79
			0.078	-0.146	-0.002	-0.133		-0.296	0.546	0.724	0.203		-0.061	0.269	0.658	0.382
MEANS BY FORM		A	14.76	18.28	17.41	11.49	B	14.61	18.28	16.99	12.51	C	14.63	17.82	15.72	11.41
S.D. BY FORM			0.66	4.37	2.55	5.63		0.59	4.88	2.17	4.66		0.64	4.41	2.54	5.73
N			90.00					90.00					90.00			

TABLE 5.- DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 3, GRADE 6, ALL CASES

WORD	ITEM	FORM	1(W)	Z(W)	N,I	TOT.	FORM	1(R)	Z(R)	N,I	TOT.	Z(D(R))	FORM	1(W)	Z(W)	N,I	TOT.
				WORDS IN HIGH MGF					WORDS IN LOW MGF						WORDS IN ANOMALOUS USAGE		
ANIMATE	4	C	89 0.824	19 0.176	0 0.0	108	B	60 0.556	47 0.435	1 0.009	108	4.27***	A	39 0.361	68 0.630	1 0.009	108
PLUCK	15	A	58 0.537	50 0.463	0 0.0	108	C	36 0.333	69 0.639	3 0.028	108	3.02**	B	24 0.222	83 0.769	1 0.009	108
PUFFING	14	A	100 0.926	8 0.074	0 0.0	108	B	30 0.278	78 0.722	0 0.0	108	9.73***	C	37 0.343	70 0.648	1 0.009	108
ECLIPSE	2	A	94 0.870	14 0.130	0 0.0	108	C	32 0.296	76 0.704	0 0.0	108	8.56***	B	35 0.324	73 0.676	0 0.0	108
EPISODIC	6	B	85 0.796	22 0.204	0 0.0	108	A	57 0.528	51 0.472	0 0.0	108	4.17***	C	30 0.278	75 0.694	3 0.028	108
MOIST	16	A	65 0.602	43 0.398	0 0.0	108	C	82 0.759	25 0.231	1 0.009	108	-2.48*	B	56 0.519	50 0.463	2 0.019	108
IMPRESS	17	B	93 0.861	15 0.139	0 0.0	108	A	60 0.556	48 0.444	0 0.0	108	4.94***	C	27 0.250	79 0.731	2 0.019	108
MELLOW	12	C	65 0.602	43 0.398	0 0.0	108	B	53 0.491	55 0.509	0 0.0	108	1.64	A	27 0.250	81 0.750	0 0.0	108
MIDDLE	20	C	92 0.852	15 0.139	1 0.009	108	A	79 0.731	29 0.269	0 0.0	108	2.18*	B	37 0.343	70 0.648	1 0.009	108
NOVEL	7	A	92 0.852	16 0.148	0 0.0	108	C	67 0.620	41 0.380	0 0.0	108	3.86***	B	35 0.324	73 0.676	0 0.0	108
OUTRAGE	18	A	75 0.694	33 0.306	0 0.0	108	C	78 0.722	29 0.269	1 0.009	108	-0.45	B	63 0.583	43 0.398	2 0.019	108
OVERTURN	9	C	90 0.833	17 0.157	1 0.009	108	B	84 0.778	24 0.222	0 0.0	108	1.03	A	40 0.370	67 0.620	1 0.009	108
PARROT	11	A	100 0.926	8 0.074	0 0.0	108	B	29 0.269	77 0.713	2 0.019	108	9.85***	C	28 0.259	80 0.741	0 0.0	108
PENSION	8	B	71 0.657	34 0.315	3 0.028	108	C	64 0.593	43 0.398	1 0.009	108	0.98	A	42 0.389	64 0.593	2 0.019	108
PLANK	1	C	98 0.907	10 0.093	0 0.0	108	B	47 0.435	61 0.565	0 0.0	108	7.39***	A	13 0.120	95 0.880	0 0.0	108
PRESSURE	19	A	83 0.769	22 0.204	3 0.028	108	A	67 0.620	41 0.380	0 0.0	108	2.36*	B	36 0.333	72 0.667	0 0.0	108
PRIMARY	21	C	81 0.750	26 0.241	1 0.009	108	B	59 0.546	48 0.444	1 0.009	108	3.13**	A	22 0.204	86 0.796	0 0.0	108
SLEIGH	3	A	83 0.769	25 0.231	0 0.0	108	A	52 0.481	54 0.519	0 0.0	108	4.36***	C	35 0.324	72 0.667	1 0.009	108
SPLINTER	10	A	98 0.907	9 0.083	1 0.009	108	A	46 0.426	62 0.574	0 0.0	108	7.51***	C	30 0.278	78 0.722	0 0.0	108
STRUCTURE	13	B	95 0.880	12 0.111	1 0.009	108	C	71 0.657	34 0.315	3 0.028	108	3.87***	A	49 0.454	58 0.537	1 0.009	108
TARDY	5	C	54 0.500	53 0.491	1 0.009	108	A	59 0.546	45 0.417	4 0.037	108	-0.68	C	33 0.306	74 0.685	1 0.009	108
COLUMN SUMS			1742 0.777	464 0.215	12 0.005	2268		1212 0.534	1039 0.458	17 0.007	2268			738 0.325	1511 0.666	19 0.008	2268

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 3, GRADE 6, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS---EVALUATION ITEM SCORES

WORD	ITEM	E (HIGH)			F(LOW)			F(ANOM.)			ALL CASES			EVAL. F(2,318)	MEACL. F(1,318)	E*H F(2,318)
		H(H)	H(L)	M	H(H)	H(L)	M	H(H)	H(L)	M	H(H)	H(L)	M			
ASPIRATE	4	0.796	0.852	0.824	0.481	0.630	0.556	0.611	0.648	0.630	0.630	0.710	0.670	9.889***	3.483	0.455
BLOUSE	15	0.574	0.500	0.537	0.444	0.222	0.333	0.778	0.759	0.769	0.599	0.494	0.546	23.745***	4.136*	1.388
BUFFALO	14	0.805	0.863	0.926	0.241	0.315	0.278	0.611	0.685	0.548	0.580	0.654	0.617	68.185***	2.654	0.0
ECLIPSE	2	0.896	0.852	0.870	0.315	0.278	0.296	0.667	0.685	0.676	0.623	0.605	0.614	50.238***	0.152	0.152
EPIDEMIC	6	0.933	0.756	0.796	0.444	0.611	0.528	0.722	0.667	0.694	0.667	0.679	0.673	9.509***	3.059	2.322
HOIST	16	0.481	0.722	0.602	0.722	0.796	0.759	0.463	0.463	0.463	0.556	0.660	0.608	10.667***	4.009*	1.845
IMPRESS	17	0.899	0.823	0.861	0.574	0.537	0.556	0.722	0.741	0.731	0.728	0.704	0.716	13.315***	0.259	0.210
MELLOW	12	0.574	0.630	0.602	0.611	0.370	0.491	0.778	0.722	0.750	0.654	0.574	0.614	8.139***	2.323	2.695
NIBBLE	20	0.907	0.796	0.852	0.759	0.704	0.731	0.611	0.685	0.648	0.759	0.728	0.744	6.115**	0.416	1.316
NOVEL	7	0.852	0.852	0.852	0.648	0.593	0.620	0.741	0.611	0.676	0.747	0.685	0.716	8.065***	1.579	0.584
OUTRAGE	19	0.704	0.685	0.694	0.685	0.759	0.722	0.426	0.370	0.398	0.605	0.605	0.605	15.780***	0.0	0.545
OVERTURN	8	0.852	0.815	0.833	0.759	0.796	0.778	0.574	0.667	0.620	0.728	0.759	0.744	7.128**	0.417	0.618
PEANUT	11	0.944	0.907	0.926	0.195	0.352	0.269	0.796	0.685	0.741	0.642	0.648	0.645	81.809***	0.020	3.682*
PENSION	9	0.667	0.648	0.657	0.556	0.630	0.593	0.556	0.630	0.593	0.553	0.636	0.614	0.631	0.631	0.322
PLANK	1	0.963	0.852	0.907	0.593	0.278	0.435	0.370	0.889	0.630	0.809	0.673	0.741	54.761***	10.787***	5.505***
PRESSURE	18	0.778	0.759	0.769	0.611	0.630	0.620	0.722	0.611	0.667	0.704	0.667	0.685	2.389	0.517	0.560
PRIMARY	21	0.790	0.704	0.750	0.51	.574	0.546	0.615	0.778	0.796	0.710	0.685	0.698	9.465***	0.245	0.749
SLEIGH	3	0.722	0.815	0.769	0.46	0.500	0.481	0.630	0.704	0.667	0.605	0.673	0.639	10.426***	1.702	0.099
SPLINTER	10	0.926	0.889	0.907	0.463	0.389	0.426	0.630	0.815	0.722	0.673	0.698	0.685	36.151***	0.280	3.013
STRUCTURE	13	0.970	0.889	0.880	0.500	0.815	0.657	0.463	0.611	0.537	0.611	0.772	0.691	17.485***	11.182***	3.193*
TARRY	5	0.500	0.500	0.500	0.611	0.481	0.546	0.741	0.630	0.685	0.617	0.537	0.577	4.182*	2.175	0.553

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 3, GRADE 6, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE,
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM		WORDS IN HIGH MGF					WORDS IN LOW MGF					WORDS IN ANOMALOUS USAGE			
		FORM	A	V	E	H	FORM	A	V	E	H	FORM	A	V	E	H
ANIMATE	4	C	11.81	12.74	15.18	6.74	B	11.58	13.32	13.57	6.65	A	11.69	13.47	13.23	7.29
			-0.211	0.532	0.846	0.480		-0.043	0.093	0.240	-0.087		-0.082	0.493	0.650	0.354
GROUSE	15	A	11.78	12.26	14.81	6.95	C	11.81	12.17	14.86	6.44	B	11.55	14.11	13.78	7.42
			0.114	-0.104	0.325	0.174		-0.036	0.055	0.143	0.079		-0.198	0.547	0.609	0.594
BUFFALO	14	A	11.70	12.24	14.35	6.62	B	11.60	14.07	14.30	6.90	C	12.31	11.93	15.06	6.31
			-0.231	0.486	0.557	0.326		-0.003	0.173	0.330	0.097		-0.047	0.28	0.391	0.102
ECLIPSE	2	A	11.74	12.41	14.52	6.78	C	11.91	9.61	14.25	4.0	B	11.56	13.92	13.82	7.18
			-0.145	0.433	0.72	0.359		-0.089	0.309	-0.046	-0.375		-0.124	0.340	0.470	0.335
EPIDEMIC	6	B	11.56	13.94	13.76	6.95	A	11.58	12.95	14.79	7.05	C	11.68	12.83	14.99	5.84
			-0.202	0.521	0.645	0.361		-0.299	0.267	0.309	0.204		-0.434	0.362	0.395	0.342
MOIST	16	A	11.63	13.14	15.28	7.25	C	11.89	12.40	14.89	6.65	B	11.54	14.10	14.18	7.52
			-0.224	0.368	0.622	0.313		0.198	0.254	0.395	0.318		-0.119	0.251	0.422	0.295
IMPRESS	17	B	11.59	13.76	13.54	6.96	A	11.88	9.53	13.38	4.77	C	11.86	12.65	15.20	6.82
			-0.136	0.587	0.628	0.502		0.356	-0.585	-0.343	-0.562		0.087	0.331	0.607	0.374
MELLOW	12	C	11.78	12.60	15.31	6.88	B	11.60	14.26	13.85	7.34	A	11.65	13.11	14.71	7.42
			-0.108	0.220	0.484	0.281		0.004	0.304	0.318	0.263		-0.252	0.545	0.502	0.573
NIBBLE	25	C	11.79	12.45	14.95	6.51	A	11.65	12.52	14.80	6.77	B	11.47	14.37	14.04	7.61
			-0.209	0.412	0.682	0.371		-0.267	0.275	0.523	0.191		-0.375	0.467	0.557	0.479
NOVEL	7	A	11.73	12.30	14.66	6.79	C	11.90	12.43	15.12	6.01	B	11.53	14.15	14.07	7.62
			0.035	0.313	0.700	0.336		0.145	0.179	0.400	-0.011		-0.209	0.424	0.615	0.517
OUTRAGE	19	A	11.75	12.36	14.81	7.07	C	11.86	11.97	15.03	6.26	B	11.63	14.00	14.72	7.79
			0.076	0.189	0.478	0.312		0.079	0.053	0.459	0.098		0.044	0.203	0.547	0.323
OVERTURN	9	C	11.86	11.89	14.69	6.03	B	11.61	13.54	13.51	6.92	A	11.61	13.72	15.27	7.61
			-0.106	0.029	-0.323	-0.009		0.023	0.281	0.401	0.314		-0.283	0.555	0.645	0.472
PARROT	11	A	11.69	12.14	14.25	6.74	B	11.41	14.21	14.66	7.59	C	11.81	12.70	15.04	6.85
			-0.335	0.367	0.333	0.518		-0.252	0.192	0.415	0.218		-0.063	0.364	0.496	0.399
PENSION	8	B	11.56	14.07	13.86	7.42	C	11.66	12.70	15.41	6.63	A	11.59	12.55	15.00	6.78
			-0.113	0.376	0.468	0.415		-0.386	0.244	0.525	0.102		-0.083	0.197	0.465	0.135
PLANK	1	C	11.81	12.40	14.70	6.49	B	11.57	13.02	12.83	6.49	A	11.73	12.46	14.60	6.74
			-0.213	0.565	0.560	0.527		-0.050	0.010	-0.279	0.029		0.028	0.499	0.741	0.340
PRESSURE	13	C	11.83	15.25	15.16	6.90	A	11.73	12.07	14.44	6.81	B	11.54	13.63	14.01	6.96
			-0.007	0.661	0.650	0.469		0.023	0.071	0.167	0.154		-0.182	0.229	0.568	0.238
PRIMARY	21	C	11.78	12.69	14.77	6.73	B	11.66	13.68	14.05	7.05	A	11.63	12.98	14.94	7.31
			-0.147	0.372	0.291	0.350		0.134	0.186	0.443	0.207		-0.417	0.581	0.801	0.610
SLEIGH	3	B	11.57	13.66	13.59	7.07	A	11.73	12.56	14.35	5.98	C	11.74	12.40	15.17	6.65
			-0.144	0.332	0.449	0.390		0.016	-0.060	0.100	-0.128		-0.255	0.191	0.480	0.242
SPLINTER	10	C	11.73	13.22	13.20	6.59	A	11.65	13.02	15.63	7.35	C	11.79	11.90	15.13	6.24
			-0.002	0.360	0.716	0.267		-0.120	0.233	0.564	0.245		-0.118	0.022	0.535	0.092
OSTRICH	18	A	11.60	11.59	13.56	5.84	C	11.80	11.65	14.66	6.01	A	11.67	13.24	14.98	7.22
			-0.013	0.517	0.736	0.456		-0.079	-0.065	0.157	-0.013		-0.106	0.344	0.404	0.284
TAFFY	5	A	11.52	13.57	13.97	7.33	A	11.59	13.03	14.75	7.42	C	11.86	12.39	15.04	6.62
			-0.172	0.144	0.354	0.266		-0.280	0.299	0.301	0.336		0.087	0.197	0.421	0.241
MEANS BY FORM		A	11.72	11.83	13.19	6.42	B	11.60	12.97	13.02	6.37	A	11.83	11.94	14.41	6.05
(S.D.'S BY FORM)			0.44	5.53	2.05	4.13		0.61	5.23	3.21	4.54		0.70	5.39	2.90	4.60
			108.00					104.00					108.00			

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 3, GRADE 9, ALL CASES

WORD	ITEM	FORM	HIGH MGF 1(R)	2(W)	N,I	TOT.	FORM	LOW MGF 1(R)	Z(W)	N,I	TOT.	Z(DIR)	FORM	ANOM 1(W)	Z(R)	N,I	TOT.
ESTIMATE	4	C	89 0.936	6 0.064	0 0.0	94	B	52 0.553	41 0.436	1 0.011	94	6.02***	A	19 0.202	75 0.798	0 0.0	94
HOUSE	15	A	68 0.723	26 0.277	0 0.0	94	C	35 0.372	59 0.628	0 0.0	94	4.84***	B	13 0.138	81 0.862	0 0.0	94
BUFFALO	14	A	89 0.947	5 0.053	0 0.0	94	B	40 0.426	52 0.553	2 0.021	94	7.70***	C	24 0.255	70 0.745	0 0.0	94
ECLIPSE	2	A	88 0.936	6 0.064	0 0.0	94	C	30 0.319	64 0.681	0 0.0	94	8.75***	B	24 0.255	70 0.745	0 0.0	94
EPIDEMIC	6	B	88 0.936	6 0.064	0 0.0	94	A	63 0.670	31 0.330	0 0.0	94	4.59***	C	23 0.245	71 0.755	0 0.0	94
HOIST	16	B	74 0.787	19 0.202	1 0.011	94	C	74 0.787	20 0.213	0 0.0	94	0.0	B	30 0.319	64 0.681	0 0.0	94
IMPRESS	17	B	88 0.936	6 0.064	0 0.0	94	A	28 0.298	66 0.702	0 0.0	94	9.00***	C	23 0.245	71 0.755	0 0.0	94
YELLOW	12	C	86 0.915	8 0.085	0 0.0	94	B	71 0.755	23 0.245	0 0.0	94	2.95**	A	14 0.149	80 0.851	0 0.0	94
NIBBLE	20	C	87 0.926	7 0.074	0 0.0	94	A	73 0.777	21 0.223	0 0.0	94	2.87**	B	11 0.117	83 0.883	0 0.0	94
NOVEL	7	A	89 0.947	5 0.053	0 0.0	94	C	66 0.702	28 0.298	0 0.0	94	4.41***	B	10 0.106	83 0.883	1 0.011	94
OUTRAGE	19	A	79 0.840	15 0.160	0 0.0	94	C	65 0.691	29 0.309	0 0.0	94	2.41*	B	52 0.553	42 0.447	0 0.0	94
OVERTURN	9	C	83 0.883	11 0.117	0 0.0	94	B	82 0.872	12 0.128	0 0.0	94	0.22	A	27 0.287	67 0.713	0 0.0	94
PARROT	11	A	89 0.947	5 0.053	0 0.0	94	B	28 0.298	66 0.702	0 0.0	94	9.18***	C	15 0.160	79 0.840	0 0.0	94
PENSION	8	B	86 0.915	8 0.085	0 0.0	94	C	63 0.670	31 0.330	0 0.0	94	4.14***	A	28 0.298	66 0.702	0 0.0	94
PLANK	1	C	90 0.957	4 0.043	0 0.0	94	B	48 0.511	46 0.489	0 0.0	94	6.93***	A	16 0.170	78 0.830	0 0.0	94
PRESSURE	18	C	89 0.947	4 0.043	1 0.011	94	A	86 0.915	8 0.085	0 0.0	94	0.86	B	36 0.383	58 0.617	0 0.0	94
PRIMARY	21	C	84 0.894	10 0.106	0 0.0	94	B	87 0.926	7 0.074	0 0.0	94	-0.76	A	15 0.160	79 0.840	0 0.0	94
SLEIGH	3	B	83 0.883	11 0.117	0 0.0	94	A	54 0.574	40 0.426	0 0.0	94	4.76***	C	23 0.245	71 0.755	0 0.0	94
SPLINTER	10	B	90 0.957	4 0.043	0 0.0	94	A	55 0.585	39 0.415	0 0.0	94	6.08***	C	24 0.255	70 0.745	0 0.0	94
STRUCTURE	13	B	85 0.904	8 0.085	1 0.011	94	C	61 0.649	33 0.351	0 0.0	94	4.20***	A	33 0.351	61 0.649	0 0.0	94
TARRY	5	B	67 0.713	27 0.287	0 0.0	94	A	56 0.596	38 0.404	0 0.0	94	1.69	C	25 0.266	69 0.734	0 0.0	94
COLUMN SUMS			1770 0.896	201 0.102	3 0.002	1974		1217 0.617	754 0.382	3 0.002	1974			485 0.246	1488 0.754	1 0.001	1974

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 3, GRADE 9, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS—EVALUATION ITEM SCORES

WORD	ITEM	E(HIGH) H(H)	M(H)	M	E(LOW) H(H)	H(L)	M	E(ANGM.) M(H)	H(L)	M	ALL CASES H(H)	H(L)	M	EVAL. F(2,276)	HEADL. F(1,276)	E*H F(2,276)
ANIMATE	4	0.915	0.957	0.936	0.596	0.511	0.553	0.766	0.830	0.798	0.759	0.766	0.762	22.328***	0.022	0.963
BLOUSE	15	0.702	0.745	0.723	0.489	0.255	0.372	0.936	0.787	0.862	0.709	0.596	0.652	34.938***	4.998*	2.597
BUFFALO	14	0.936	0.957	0.947	0.319	0.532	0.426	0.766	0.723	0.745	0.674	0.738	0.706	40.299***	1.783	2.575
ECLIPSE	2	0.936	0.936	0.936	0.234	0.404	0.319	0.809	0.681	0.745	0.660	0.674	0.667	80.389***	0.091	3.380*
EPIDEMIC	6	0.957	0.915	0.936	0.638	0.702	0.670	0.702	0.809	0.755	0.766	0.809	0.787	11.037***	0.813	0.880
MOIST	16	0.723	0.851	0.787	0.851	0.723	0.787	0.660	0.702	0.681	0.745	0.759	0.752	1.745	0.077	2.145
IMPRESS	17	0.894	0.975	0.936	0.319	0.277	0.298	0.809	0.702	0.755	0.674	0.652	0.663	66.586***	0.209	1.462
MELLOW	12	0.894	0.936	0.915	0.872	0.638	0.755	0.851	0.851	0.851	0.872	0.809	0.840	4.744**	2.247	4.078*
NIPPLE	20	0.915	0.936	0.926	0.766	0.787	0.777	0.872	0.894	0.883	0.851	0.872	0.862	4.702**	0.271	0.0
NOVEL	7	0.936	0.957	0.947	0.766	0.638	0.702	0.915	0.851	0.883	0.872	0.816	0.844	12.432***	1.563	1.077
OUTRAGE	19	0.830	0.851	0.840	0.681	0.702	0.691	0.404	0.489	0.447	0.638	0.681	0.660	18.396***	0.633	0.158
OVERDO	9	0.872	0.894	0.883	0.894	0.851	0.872	0.681	0.745	0.713	0.816	0.830	0.823	6.005**	0.100	0.473
DIRECT	11	0.915	0.975	0.947	0.234	0.362	0.298	0.872	0.809	0.840	0.674	0.716	0.695	86.277***	0.967	1.693
PENSION	8	0.936	0.894	0.915	0.660	0.681	0.670	0.702	0.702	0.702	0.766	0.759	0.762	9.623***	0.021	0.144
PLANK	1	0.936	0.975	0.957	0.553	0.468	0.511	0.851	0.809	0.830	0.780	0.752	0.766	34.063***	0.388	0.679
PRESSURE	18	0.975	0.915	0.947	0.894	0.936	0.915	0.574	0.660	0.617	0.816	0.837	0.826	25.277***	0.259	1.124
PRIMARY	21	0.915	0.872	0.894	0.872	0.979	0.926	0.809	0.872	0.840	0.865	0.908	0.887	1.737	1.276	1.382
SLEIGH	?	0.800	0.957	0.803	0.847	0.702	0.574	0.702	0.809	0.755	0.652	0.823	0.738	13.058***	1.808***	0.799
SPLINTER	10	0.657	0.957	0.957	0.574	0.596	0.585	0.766	0.723	0.745	0.766	0.759	0.762	20.359***	0.022	0.154
STRUCTURE	13	0.894	0.915	0.904	0.596	0.702	0.649	0.638	0.660	0.649	0.709	0.759	0.734	11.123***	0.946	0.309
TAFFY	5	0.681	0.745	0.713	0.617	0.574	0.596	0.787	0.681	0.734	0.695	0.667	0.681	2.405	0.252	0.802

TABLE 5.4 DATA FROM MAIN STUDY: SENTENCE EVALUATION TEST (CONTINUED)

LEVEL 2, GRADE 9, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE,
THE SECOND LINE GIVES BISERIALS R'S

WORDS IN HIGH MGF

WORD	ITEM FORM	FORM	A	V	E	H
ANIMATE	4	C	14.48 / -0.278	18.64 / 0.659	16.34 / 0.931	10.70 / 0.435
ARGUSE	25	A	14.57 / -0.041	18.99 / 0.540	16.85 / 0.708	10.62 / 0.475
ORDEAL	14	A	14.56 / -0.336	17.84 / 0.069	16.07 / 0.439	9.60 / 0.076
ECLIPSE	7	A	14.56 / -0.349	18.19 / 0.663	16.24 / 0.930	9.93 / 0.586
EPIDEMIC	6	R	14.60 / -0.169	18.67 / 0.377	15.94 / 0.770	9.88 / 0.344
ADVICE	16	A	14.54 / -0.1	18.69 / 0.547	16.51 / 0.562	10.14 / 0.325
IMPRESS	17	A	14.65 / 0.092	18.37 / -0.102	15.84 / 0.443	9.68 / 0.436
MEDIUM	12	C	14.59 / 0.0	18.40 / 0.105	16.40 / 0.839	10.53 / 0.125
TANGLE	20	C	14.46 / -0.431	18.44 / 0.312	16.17 / 0.437	10.77 / 0.475
LEVEL	7	A	14.51 / -0.336	18.08 / 0.543	16.12 / 0.613	9.80 / 0.442
OUTRAGE	19	A	14.51 / -0.447	18.43 / 0.493	16.53 / 0.739	10.42 / 0.616
OVERTURN	9	C	14.46 / -0.132	18.90 / 0.636	16.51 / 0.810	11.04 / 0.582
PARROT	11	A	14.56 / -0.336	18.02 / 0.730	16.13 / 0.647	9.76 / 0.381
PENSION	5	B	14.58 / -0.320	18.65 / 0.270	15.93 / 0.571	10.10 / 0.560
PLANK	1	C	14.49 / -0.191	19.51 / 0.660	16.21 / 0.841	10.68 / 0.552
PRESSURE	18	C	14.47 / -0.401	18.46 / 0.458	16.17 / 0.569	10.62 / 0.344
PRIMARY	21	C	14.50 / 0.0	18.96 / 0.750	16.38 / 0.670	10.87 / 0.455
SLEIGH	3	H	14.58 / -0.266	18.61 / 0.169	15.89 / 0.362	9.92 / 0.246
SPLINTER	10	H	14.59 / -0.455	18.60 / 0.353	15.80 / 0.440	9.79 / 0.293
STRUCTURE	13	B	14.58 / -0.330	18.76 / 0.390	15.86 / 0.355	9.85 / 0.213
TARDY	5	H	14.60 / -0.064	18.90 / 0.211	16.31 / 0.544	10.37 / 0.319
MEANS BY FORM		A	14.59 / 0.61	17.81 / 4.36	15.93 / 2.83	9.55 / 4.85
SD'S BY FORM		94.00				

WORDS IN LOW MGF

WORD	FORM	A	V	E	H
ANIMATE	B	14.65 / 0.079	18.31 / -0.044	15.54 / 0.143	9.92 / 0.079
ARGUSE	C	14.54 / 0.069	18.40 / 0.039	16.00 / 0.007	11.17 / 0.156
ORDEAL	B	14.50 / -0.194	19.07 / 0.153	16.85 / 0.530	9.72 / 0.015
ECLIPSE	C	14.37 / -0.194	18.17 / -0.006	16.30 / 0.098	9.70 / 0.142
EPIDEMIC	A	14.50 / 0.055	18.19 / 0.122	16.37 / 0.287	9.78 / 0.086
ADVICE	C	14.47 / -0.119	19.31 / 0.607	16.66 / 0.633	10.99 / 0.322
IMPRESS	A	14.71 / 0.182	16.54 / -0.646	16.46 / -0.443	6.61 / -0.522
MEDIUM	B	14.68 / 0.217	18.69 / 0.131	16.10 / 0.405	10.07 / 0.211
TANGLE	A	14.60 / 0.075	18.21 / 0.237	16.38 / 0.420	9.89 / 0.181
LEVEL	C	14.52 / 0.050	18.50 / 0.122	16.61 / 0.435	11.08 / 0.280
OUTRAGE	C	14.48 / -0.074	19.31 / 0.439	16.83 / 0.573	11.18 / 0.318
OVERTURN	B	14.61 / -0.046	18.60 / 0.141	15.89 / 0.334	9.68 / 0.021
PARROT	B	14.46 / -0.201	17.93 / -0.100	16.43 / 0.266	10.04 / 0.069
PENSION	C	14.56 / -0.167	17.81 / -0.147	16.57 / 0.376	10.32 / -0.047
PLANK	B	14.63 / 0.016	18.38 / -0.021	15.77 / 0.037	8.58 / -0.295
PRESSURE	A	14.58 / -0.036	18.16 / 0.478	16.20 / 0.565	9.70 / 0.175
PRIMARY	B	14.62 / 0.037	18.48 / 0.053	15.83 / 0.352	9.66 / -0.006
SLEIGH	A	14.57 / -0.027	18.11 / 0.102	16.33 / 0.211	9.70 / 0.046
SPLINTER	A	14.53 / -0.143	19.04 / 0.423	16.95 / 0.540	10.38 / 0.257
STRUCTURE	C	14.56 / 0.163	17.90 / -0.106	16.72 / 0.445	10.64 / 0.077
TARDY	A	14.61 / 0.056	17.70 / -0.040	16.39 / -0.254	10.14 / 0.187
MEANS BY FORM	B	14.62 / 0.65	18.45 / 4.46	15.70 / 2.35	9.66 / 4.67
SD'S BY FORM	94.00				

WORDS IN ANOMALOUS USAGE

WORD	FORM	A	V	E	H
ANIMATE	A	14.49 / -0.426	18.88 / 0.695	16.88 / 0.953	10.73 / 0.688
ARGUSE	B	14.58 / -0.219	19.30 / 0.743	16.05 / 0.576	10.15 / 0.407
ORDEAL	C	14.53 / 0.108	18.57 / 0.173	16.63 / 0.515	10.81 / 0.189
ECLIPSE	B	14.60 / -0.060	18.91 / 0.243	16.36 / 0.645	9.99 / 0.162
EPIDEMIC	C	14.42 / -0.303	18.86 / 0.319	16.96 / 0.805	11.04 / 0.315
ADVICE	R	14.52 / -0.296	19.66 / 0.517	16.42 / 0.584	10.87 / 0.50?
IMPRESS	C	14.42 / -0.303	19.24 / 0.504	16.73 / 0.620	11.56 / 0.585
MEDIUM	A	14.51 / -0.437	18.22 / 0.350	16.41 / 0.629	10.13 / 0.432
TANGLE	B	14.60 / -0.100	18.44 / 0.496	15.99 / 0.546	10.12 / 0.443
LEVEL	B	14.59 / -0.183	19.13 / 0.691	16.06 / 0.684	10.35 / 0.663
OUTRAGE	B	14.40 / -0.367	19.50 / 0.267	16.81 / 0.532	10.60 / 0.226
OVERTURN	A	14.58 / -0.010	18.39 / 0.278	16.57 / 0.474	10.10 / 0.238
PARROT	C	14.47 / -0.178	18.33 / 0.089	16.51 / 0.624	10.76 / 0.241
PENSION	A	14.55 / -0.132	19.14 / 0.617	16.98 / 0.758	10.91 / 0.567
PLANK	A	14.58 / -0.044	18.31 / 0.375	16.46 / 0.619	10.50 / 0.639
PRESSURE	B	14.64 / 0.052	18.60 / 0.057	16.24 / 0.371	9.93 / 0.094
PRIMARY	A	14.56 / -0.160	18.47 / 0.523	16.56 / 0.770	10.24 / 0.490
SLEIGH	C	14.46 / -0.138	18.94 / 0.360	16.86 / 0.724	11.07 / 0.329
SPLINTER	C	14.50 / 0.0	19.04 / 0.394	16.91 / 0.742	11.61 / 0.589
STRUCTURE	A	14.48 / -0.315	18.?? / 0.334	16.92 / 0.613	11.02 / 0.528
TARDY	C	14.46 / -0.132	18.38 / 0.079	16.32 / 0.260	10.43 / -0.001
MEANS BY FORM	C	14.50 / 0.61	18.20 / 4.95	15.98 / 2.92	10.44 / 4.63
SD'S BY FORM	94.00				

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST

LEVEL 1, GRADE 3, ALL CASES

WORD	ITEM	FORM	\<——WORDS IN HIGH MGF 1(R)\>	2(W)	3(?)	4(NR)	TOT.	FORM	\<——WORDS IN LOW MGF 1(R)\>	2(W)	3(?)	4(NR)	TOT.	Z(O(R))	Z(O(W))	Z(O(?))
AGE	17	A	119	18	14	56	207	B	18	47	29	113	207	10.55***	-3.92***	-2.42*
			0.575	0.087	0.068	0.271			0.087	0.227	0.140	0.546				
BROKE	6	B	41	98	48	20	207	A	116	31	28	32	207	-7.60***	7.11***	2.54**
			0.198	0.473	0.232	0.097			0.560	0.150	0.135	0.155				
CHANCE	1	A	74	18	91	24	207	B	22	67	82	36	207	6.06***	-5.96***	0.90
			0.357	0.087	0.440	0.116			0.106	0.324	0.396	0.174				
END	10	B	97	25	35	50	207	A	71	35	24	77	207	2.60***	-1.40	1.55
			0.469	0.121	0.169	0.242			0.343	0.169	0.116	0.372				
FILL	18	A	53	31	38	85	207	B	44	40	33	90	207	1.04	-1.17	0.65
			0.256	0.150	0.184	0.411			0.213	0.193	0.159	0.435				
FREE	21	A	69	16	43	79	207	B	88	27	22	70	207	-1.92	-1.77	2.84**
			0.333	0.077	0.208	0.382			0.425	0.130	0.106	0.338				
GAME	19	B	45	27	64	71	207	A	10	64	30	103	207	5.07***	-4.39***	3.99***
			0.217	0.130	0.309	0.343			0.048	0.309	0.145	0.498				
GRAVE	5	A	94	34	41	38	207	B	40	37	58	72	207	5.67***	-0.39	-1.96
			0.454	0.164	0.198	0.184			0.193	0.179	0.280	0.348				
LINC	11	A	41	40	35	91	207	B	14	62	50	81	207	3.91***	-2.51*	-1.83
			0.198	0.193	0.169	0.440			0.068	0.300	0.242	0.391				
LIVE	3	A	103	25	50	29	207	B	52	32	102	21	207	5.18***	-1.00	-5.30***
			0.498	0.121	0.242	0.140			0.251	0.155	0.493	0.101				
MILL	7	B	23	71	50	63	207	A	13	80	15	99	207	1.70	-0.92	4.73***
			0.111	0.343	0.242	0.304			0.063	0.386	0.072	0.478				
NAME	9	B	33	41	64	69	207	A	22	93	28	64	207	1.59	-5.46***	4.26***
			0.159	0.198	0.309	0.333			0.106	0.449	0.135	0.309				
PAGE	8	A	66	5	73	63	207	B	23	92	20	72	207	5.14***	-10.09***	6.24***
			0.319	0.024	0.353	0.304			0.111	0.444	0.097	0.348				
PRIVATE	2	B	34	49	84	40	207	A	30	49	49	79	207	0.54	0.0	3.68***
			0.164	0.237	0.406	0.193			0.145	0.237	0.237	0.382				
SEASON	4	B	30	17	118	42	207	A	86	48	28	45	207	-6.13***	-6.19***	9.26***
			0.145	0.082	0.570	0.203			0.415	0.232	0.135	0.217				
SIGHT	15	A	63	24	33	87	207	B	105	8	25	69	207	-4.20***	2.94**	1.13
			0.304	0.116	0.159	0.420			0.507	0.039	0.121	0.333				
SHIRT	12	A	64	57	30	56	207	B	1	68	32	106	207	8.51***	-1.18	-0.28
			0.309	0.275	0.145	0.271			0.005	0.329	0.155	0.512				
STRANGER	20	B	25	54	45	83	207	A	12	49	33	113	207	2.24*	0.57	1.51
			0.121	0.261	0.217	0.401			0.058	0.237	0.159	0.546				
TAKE	16	B	100	20	37	50	207	A	68	37	21	81	207	3.20***	-2.42*	2.27*
			0.483	0.097	0.179	0.242			0.329	0.179	0.101	0.391				
TRAIN	14	B	37	33	45	92	207	A	107	8	21	71	207	-7.22***	4.11***	3.22**
			0.179	0.159	0.217	0.444			0.517	0.039	0.101	0.343				
WISH	13	A	91	28	25	63	207	B	37	53	41	76	207	5.74***	-3.10**	-2.15*
			0.440	0.135	0.121	0.304			0.179	0.256	0.198	0.367				
COLUMN SUMS			1302	721	1063	1251	4347		979	1027	771	1570	4347			
			0.300	0.168	0.245	0.288			0.225	0.236	0.177	0.361				

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 1, GRADE 3, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS

WORD	ITEM	H(HIGH)				H(LOW)				ALL CASES				HEADL. F(1,408)	EVAL. F(2,408)	H*E F(2,408)
		E(H)	E(L)	E(A)	M	E(H)	E(L)	E(A)	M	E(H)	E(L)	E(A)	M			
ACE	17	0.565	0.667	0.493	0.575	0.072	0.116	0.072	0.087	0.319	0.391	0.283	0.331	152.589***	2.618	0.912
BROKE	6	0.246	0.116	0.232	0.158	0.551	0.594	0.536	0.560	0.399	0.355	0.384	0.279	66.754***	0.332	1.709
CHANCE	1	0.319	0.362	0.391	0.357	0.087	0.101	0.130	0.106	0.203	0.232	0.261	0.232	35.799***	0.707	0.059
END	10	0.522	0.478	0.406	0.469	0.304	0.333	0.391	0.343	0.413	0.406	0.399	0.406	6.836**	0.030	1.527
FILL	18	0.246	0.246	0.275	0.256	0.217	0.261	0.159	0.213	0.232	0.254	0.217	0.234	1.083	0.254	0.843
FREE	21	0.333	0.333	0.333	0.333	0.362	0.449	0.464	0.425	0.348	0.391	0.399	0.379	3.699	0.441	0.441
GAME	19	0.217	0.203	0.232	0.217	0.043	0.058	0.043	0.048	0.130	0.130	0.138	0.133	27.010***	0.022	0.154
GRAVE	5	0.493	0.406	0.464	0.454	0.246	0.188	0.145	0.193	0.370	0.297	0.304	0.324	34.641***	1.081	0.463
LINE	11	0.188	0.246	0.159	0.198	0.014	0.116	0.072	0.068	0.101	0.181	0.116	0.133	15.858***	2.241	0.587
LIVE	3	0.464	0.493	0.536	0.498	0.232	0.304	0.217	0.251	0.348	0.399	0.377	0.374	28.417***	0.404	0.688
MILL	7	0.145	0.072	0.116	0.111	0.058	0.072	0.058	0.063	0.101	0.072	0.087	0.087	3.038	0.365	0.851
NAME	9	0.188	0.145	0.145	0.159	0.116	0.101	0.101	0.106	0.152	0.123	0.123	0.133	2.521	0.333	0.083
PAGE	8	0.290	0.319	0.348	0.319	0.043	0.116	0.174	0.111	0.167	0.217	0.261	0.215	28.166***	1.935	0.289
PRIVATE	2	0.116	0.217	0.159	0.164	0.087	0.275	0.072	0.145	0.101	0.246	0.116	0.155	0.304	6.906**	1.442
SEASON	4	0.130	0.130	0.174	0.145	0.420	0.391	0.435	0.415	0.275	0.261	0.304	0.280	40.790***	0.364	0.052
SIGHT	15	0.304	0.275	0.333	0.304	0.507	0.522	0.493	0.507	0.406	0.399	0.413	0.406	18.219***	0.031	0.279
SKIRT	12	0.290	0.348	0.290	0.309	0.014	0.0	0.0	0.005	0.152	0.174	0.145	0.157	86.838***	0.284	0.459
STRANGER	20	0.120	0.159	0.072	0.121	0.072	0.058	0.043	0.058	0.101	0.109	0.058	0.089	5.049*	1.285	0.568
TAKE	16	0.406	0.551	0.493	0.483	0.261	0.420	0.304	0.329	0.333	0.486	0.399	0.406	10.547***	3.430*	0.134
TRAIN	14	0.174	0.188	0.188	0.174	0.580	0.493	0.478	0.517	0.377	0.333	0.333	0.348	59.141***	0.435	0.628
WISH	13	0.449	0.406	0.464	0.440	0.188	0.174	0.174	0.179	0.319	0.290	0.319	0.309	35.371***	0.194	0.146

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TABLE 5.5   DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 1, GRACE 3, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H):
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE,
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM	FORM	WORDS IN HIGH MGF				FORM	WORDS IN LOW MGF				FORM
			A	V	E	H		A	V	E	H	
AGE	17	A	8.61	8.03	15.65	9.13	B	8.61	10.22	17.50	10.50	B
			-0.032	0.486	0.496	0.752		-0.063	0.558	0.494	0.859	
BROKE	6	B	8.63	8.17	15.54	7.22	A	8.60	7.90	15.50	9.17	A
			-0.056	0.338	0.229	0.514		-0.035	0.423	0.422	0.742	
CHANGE	1	A	8.55	8.03	15.92	9.49	B	8.68	8.09	17.14	8.82	B
			-0.102	0.316	0.397	0.562		-0.004	0.263	0.458	0.655	
END	10	B	8.66	7.91	15.45	6.79	A	8.54	8.75	16.20	10.99	A
			-0.047	0.478	0.351	0.723		-C.129	0.474	0.460	0.834	
FILL	18	A	8.66	9.09	16.38	11.40	B	8.48	8.75	16.16	7.82	B
			0.056	0.473	0.432	0.778		-0.233	0.459	0.369	0.641	
FREE	21	A	8.58	8.78	16.17	11.23	B	8.55	8.07	15.66	7.30	B
			-0.059	0.474	0.446	0.866		-0.233	0.486	0.389	0.805	
GAME	19	B	8.62	8.40	15.84	8.71	A	8.40	8.70	16.10	10.60	A
			-0.072	0.395	0.305	0.815		-0.175	0.240	0.225	0.393	
CRAVE	5	A	8.62	8.86	15.81	9.64	B	8.75	8.65	16.05	8.60	B
			-0.003	0.615	0.439	0.708		C.259	0.423	0.333	0.757	
LINE	11	A	8.54	9.34	16.68	11.98	B	8.50	7.86	16.36	9.86	B
			-0.097	0.466	0.447	0.779		-0.147	0.204	0.292	0.724	
LIVE	3	A	8.66	7.53	15.36	9.02	B	8.58	8.19	15.52	7.50	B
			0.067	0.259	0.321	0.612		-0.131	0.379	0.250	0.626	
MILL	7	B	8.70	7.96	15.83	8.78	A	8.69	8.62	15.62	12.69	A
			0.009	0.246	0.239	0.658		0.063	0.243	0.168	0.635	
NAME	9	B	8.70	8.15	16.18	9.12	A	8.55	8.55	16.68	11.05	A
			0.011	0.308	0.335	0.792		-0.070	0.266	0.364	0.525	
PAGE	8	A	8.52	8.82	16.48	10.91	B	8.65	3.57	16.87	9.48	B
			-0.153	0.470	0.512	0.784		-0.030	0.339	0.418	0.762	
PRIVATE	2	B	8.59	8.03	16.21	8.65	A	8.50	9.26	16.33	11.23	A
			-0.099	0.290	0.343	0.720		-0.125	0.394	0.337	0.600	
SEASON	4	B	8.67	8.33	16.20	8.40	A	8.57	8.79	15.86	9.67	A
			-0.019	0.329	0.328	0.651		-0.086	0.553	0.424	0.666	
SIGHT	15	A	8.60	8.90	16.52	11.60	B	8.56	7.79	15.58	7.10	B
			-0.022	0.476	0.508	0.888		-0.241	0.477	0.427	0.879	
SKIRT	12	A	8.52	9.58	16.09	10.20	B	9.00	9.00	13.00	8.00	B
			-0.150	0.409	0.407	0.643		0.177	0.255	-0.155	0.340	
STRANGER	20	B	8.60	8.44	17.00	9.96	A	8.58	11.25	18.25	14.17	A
			-0.079	0.328	0.451	0.854		-C.029	0.566	0.536	C.775	
TAKE	16	B	8.70	7.06	14.96	6.41	A	8.62	6.09	15.56	10.16	A
			0.026	0.222	0.186	0.625		-0.001	0.314	0.285	0.654	
TRAIN	14	B	8.59	7.95	16.51	8.70	B	8.59	8.31	15.89	10.11	B
			-0.095	0.284	0.416	0.753		-0.064	0.518	0.526	0.927	
WISH	13	A	8.60	8.32	15.95	10.41	B	8.57	8.03	16.19	9.22	B
			-0.026	0.440	0.470	0.864		-0.124	0.299	0.351	0.842	
MEANS BY FORM		A	8.62	6.70	14.44	6.63	B	9.60	6.36	14.63	4.39	
S.D.'S BY FORM			0.60	4.03	3.56	4.88		0.65	3.81	3.42	3.91	
N			207.00					207.00				

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 1, GRADE 6. ALL CASES

WORD	ITEM	FORM	WORDS IN HIGH MGF					FORM	WORDS IN LOW MGF					Z(D:R)	Z(D:W)	Z(D:?)
			1(R)	2(W)	3(?)	4(NR)	TOT.		1(R)	2(W)	3(?)	4(NR)	TOT.			
AGE	17	A	93 0.775	9 0.075	10 0.083	8 0.067	120	B	58 0.483	19 0.158	20 0.167	23 0.192	120	4.68***	-2.01*	-1.95
BROKE	6	B	51 0.425	34 0.283	32 0.267	3 0.025	120	A	95 0.792	14 0.117	8 0.067	3 0.025	120	-5.82***	3.23**	4.16***
CHANCE	1	A	91 0.758	8 0.067	19 0.158	2 0.017	120	B	39 0.325	38 0.317	33 0.275	10 0.083	120	6.74***	-4.92***	-2.19*
END	10	B	86 0.717	9 0.075	21 0.175	4 0.033	120	A	100 0.833	5 0.042	10 0.083	5 0.042	120	-2.16*	1.10	2.12*
FILL	18	A	53 0.442	29 0.242	25 0.208	13 0.108	120	B	54 0.450	27 0.225	22 0.183	17 0.142	120	-0.13	0.31	0.49
FREE	21	A	90 0.750	5 0.042	15 0.125	10 0.083	120	A	79 0.658	7 0.058	24 0.200	10 0.083	120	1.56	-0.59	-1.57
GAME	19	B	53 0.442	12 0.100	48 0.400	7 0.058	120	B	33 0.275	44 0.367	21 0.175	22 0.183	120	2.69**	-4.88***	3.85***
GRAVE	5	A	55 0.458	5 0.042	17 0.142	43 0.358	120	B	70 0.583	15 0.125	22 0.183	13 0.108	120	3.48***	-2.34*	-0.87
LINE	11	A	57 0.475	35 0.292	17 0.142	11 0.092	120	B	40 0.333	48 0.400	24 0.200	8 0.067	120	2.24*	-1.76	-1.20
LIVE	3	A	90 0.750	8 0.067	17 0.142	5 0.042	120	B	51 0.425	8 0.067	58 0.483	3 0.025	120	5.11***	0.0	-5.71***
MILL	7	B	45 0.375	30 0.250	40 0.333	5 0.042	120	A	37 0.308	65 0.542	9 0.075	9 0.075	120	1.09	-4.62***	4.96***
NAME	9	B	44 0.367	20 0.167	43 0.358	13 0.108	120	A	58 0.483	40 0.333	18 0.150	4 0.033	120	-1.83	-2.98**	3.
PAGE	8	A	85 0.708	29 0.242	5 0.042	1 0.008	120	B	38 0.317	60 0.500	13 0.108	9 0.075	120	6.07***	-8.75***	2.72**
PRIVATE	2	B	41 0.342	34 0.283	36 0.300	9 0.075	120	A	75 0.625	13 0.108	25 0.208	7 0.058	120	-4.39***	3.42***	1.63
SEASON	4	B	47 0.392	57 0.475	9 0.075	7 0.058	120	A	99 0.825	5 0.042	12 0.100	4 0.033	120	-6.88***	0.59	6.42***
SIGHT	15	A	90 0.750	8 0.067	12 0.100	10 0.083	120	P	94 0.783	2 0.017	17 0.142	7 0.058	120	-0.61	1.94	-0.99
SPIRT	12	A	63 0.525	35 0.292	15 0.125	7 0.058	120	B	7 0.058	74 0.617	15 0.125	24 0.200	120	7.95***	-4.92***	0.0
STRANGER	20	B	52 0.433	23 0.192	35 0.292	10 0.083	120	A	50 0.417	43 0.358	13 0.108	14 0.117	120	0.26	-2.89**	3.55***
TAKE	16	B	77 0.642	4 0.033	34 0.283	5 0.042	120	A	82 0.683	18 0.150	7 0.058	13 0.108	120	-0.68	-3.13**	4.63***
TRAIN	14	B	54 0.450	16 0.133	37 0.308	13 0.108	120	B	95 0.792	6 0.050	16 0.133	3 0.025	120	-5.45***	2.24*	3.27***
WISH	13	A	87 0.725	14 0.117	16 0.133	3 0.025	120	A	62 0.517	23 0.192	28 0.233	7 0.058	120	3.33***	-1.61	-2.00*
COLUMN SUMS			1444 0.573	347 0.138	575 0.228	154 0.061	2520		1316 0.522	574 0.228	415 0.165	215 0.085	2520			

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 1, GRADE 6, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS

WORD	ITEM	H(HIGH)				H(LOW)				ALL CASES				HEADL. F(1,234)	EVAL. F(2,234)	H*E F(2,234)
		E(H)	E(L)	E(A)	M	E(H)	E(L)	E(A)	M	E(H)	E(L)	E(A)	M			
AGE	17	0.700	0.775	0.850	0.775	0.450	0.575	0.425	0.483	0.575	0.675	0.637	0.629	23.923***	0.657	1.309
BROKE	6	0.400	0.400	0.475	0.425	0.750	0.700	0.925	0.792	0.575	0.550	0.700	0.608	39.448***	2.527	0.571
CHANCE	1	0.800	0.650	0.825	0.758	0.225	0.450	0.300	0.325	0.512	0.550	0.563	0.542	56.636***	0.272	4.168*
END	10	0.675	0.725	0.750	0.717	0.725	0.850	0.925	0.833	0.700	0.787	0.837	0.775	4.766*	2.261	0.462
FILL	18	0.500	0.450	0.375	0.442	0.375	0.550	0.425	0.450	0.438	0.500	0.400	0.446	0.017	0.819	1.120
FREE	21	0.675	0.850	0.725	0.750	0.625	0.600	0.750	0.658	0.650	0.725	0.737	0.704	2.441	0.868	1.957
GAME	19	0.500	0.400	0.425	0.442	0.350	0.250	0.225	0.275	0.425	0.325	0.325	0.358	7.365**	1.178	0.074
GRAVE	5	0.850	0.675	0.850	0.792	0.550	0.625	0.575	0.583	0.700	0.650	0.712	0.688	12.689***	0.426	1.848
LINE	11	0.525	0.450	0.450	0.475	0.300	0.400	0.500	0.333	0.412	0.425	0.375	0.404	5.016*	0.226	0.642
LIVE	3	0.775	0.775	0.700	0.750	0.425	0.475	0.375	0.425	0.600	0.625	0.537	0.587	28.810***	0.739	0.057
MILL	7	0.225	0.500	0.400	0.375	0.300	0.450	0.175	0.308	0.262	0.475	0.287	0.342	1.232	4.986***	2.098
NAME	9	0.325	0.350	0.425	0.367	0.525	0.450	0.475	0.483	0.425	0.400	0.450	0.425	3.323	0.203	0.475
PAGE	8	0.650	0.775	0.700	0.708	0.275	0.375	0.300	0.317	0.462	0.575	0.500	0.512	42.883***	1.223	0.019
PRIVATE	2	0.425	0.325	0.275	0.342	0.675	0.650	0.550	0.625	0.550	0.487	0.412	0.483	20.757***	1.634	0.126
SEASON	4	0.400	0.400	0.375	0.392	0.775	0.850	0.850	0.825	0.587	0.625	0.612	0.608	57.626***	0.149	0.277
SIGHT	15	0.725	0.675	0.850	0.750	0.775	0.775	0.800	0.783	0.750	0.725	0.825	0.767	0.370	1.201	0.647
SKIR*	12	0.550	0.525	0.500	0.525	0.050	0.100	0.025	0.058	0.300	0.313	0.262	0.292	84.116***	0.349	0.138
STRANGER	20	0.575	0.425	0.300	0.433	0.425	0.425	0.400	0.417	0.500	0.425	0.350	0.425	3.068	1.844	1.298
TAKE	16	0.700	0.625	0.600	0.642	0.750	0.650	0.650	0.683	0.725	0.637	0.625	0.662	0.459	1.047	0.018
TRAIN	14	0.425	0.550	0.375	0.450	0.825	0.850	0.700	0.792	0.625	0.700	0.537	0.621	33.916***	2.562	0.262
WISH	13	0.650	0.775	0.800	0.725	0.500	0.550	0.500	0.517	0.550	0.662	0.650	0.621	11.525***	1.346	0.904

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 1, GRADE 6, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE.
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM	FORM	WORDS IN HIGH MGF A	V	E	H	FROM	WORDS IN LOW MGF A	V	E	H
AGE	17	A	11.61	14.25	18.03	15.65	B	11.53	14.62	17.97	13.76
			-0.180	0.403	0.509	0.998		-0.306	0.620	0.498	0.875
BROKE	6	B	11.61	13.92	17.94	13.49	A	11.63	14.15	17.81	14.89
			-0.164	0.393	0.437	0.733		-0.113	0.378	0.248	0.696
CHANCE	1	A	11.57	14.26	18.09	15.26	B	11.54	15.49	17.90	13.77
			-0.324	0.387	0.544	0.773		-0.223	0.628	0.351	0.653
END	10	B	11.71	13.56	17.43	11.88	A	11.62	14.24	17.92	15.00
			-0.022	0.614	0.502	0.852		-0.196	0.515	0.475	0.903
FILL	18	A	11.55	14.58	17.87	16.74	B	11.57	13.94	17.28	13.00
			-0.191	0.247	0.132	0.651		-0.225	0.418	0.213	0.673
FREE	21	A	11.63	14.32	18.02	15.76	B	11.61	13.66	17.97	12.73
			-0.090	0.402	0.454	0.958		-0.271	0.550	0.743	0.981
GAME	19	L	11.57	14.21	18.02	13.49	A	11.58	15.55	18.09	17.61
			-0.234	0.474	0.479	0.756		-0.104	0.334	0.186	0.607
GRAVE	5	A	11.65	14.48	18.04	15.65	B	11.63	13.69	17.74	12.77
			-0.024	0.556	0.557	1.069		-0.183	0.467	0.506	0.827
LINE	11	A	11.56	15.58	18.16	16.49	B	11.57	14.80	18.00	14.25
			-0.177	0.491	0.308	0.642		-0.180	0.504	0.387	0.738
LIVE	3	A	11.62	14.56	17.97	15.41	B	11.61	13.86	17.76	13.41
			-0.131	0.508	0.390	0.813		-0.164	0.380	0.375	0.718
MILL	7	B	11.54	15.04	17.36	14.00	A	11.59	15.95	18.59	17.49
			-0.099	0.595	0.211	0.754		-0.086	0.422	0.411	0.627
NAME	9	C	11.00	14.00	17.54	13.70	A	11.71	15.52	18.17	16.76
			-0.047	0.544	0.256	0.624		0.090	0.485	0.321	0.710
PAGE	8	A	11.69	15.09	18.04	15.94	B	11.58	14.68	18.26	14.13
			0.113	0.658	0.410	0.907		-0.170	0.467	0.452	0.498
PRIVATE	2	B	11.44	13.68	17.88	13.76	A	11.59	15.43	18.20	16.31
			-0.359	0.290	0.356	0.671		-0.181	0.631	0.459	0.832
SEASON	4	B	11.51	14.87	17.68	13.77	A	11.61	14.56	17.92	15.35
			-0.291	0.576	0.325	0.737		-0.256	0.688	0.455	1.068
SIGH	15	A	11.61	14.62	17.94	15.79	B	11.70	13.05	17.19	11.22
			-0.171	0.538	0.365	0.972		-0.054	0.474	0.426	0.774
SKIRT	12	A	11.62	15.06	17.97	16.06	B	11.57	17.57	16.29	14.29
			-0.079	0.412	0.219	0.608		-0.101	0.512	0.068	0.437
STRANGER	20	B	11.60	14.15	17.05	13.98	A	11.54	15.88	18.36	17.26
			-0.184	0.454	0.410	0.836		-0.194	0.501	0.380	0.721
TAKE	16	B	11.65	13.66	17.65	12.35	A	11.60	14.87	18.06	15.70
			-0.160	0.528	0.552	0.828		-0.179	0.528	0.405	0.759
TRAIN	14	B	11.59	14.31	17.59	13.78	A	11.64	14.29	17.89	15.07
			-0.196	0.507	0.330	0.824		-0.069	0.455	0.360	0.784
WISH	13	A	11.63	14.46	18.09	15.85	B	11.61	14.48	18.02	13.61
			-0.087	0.428	0.491	0.919		-0.187	0.625	0.554	0.903
MEANS BY FORM		A	11.46	13.43	17.63	13.48	B	11.72	12.22	16.70	9.52
S.D.'S BY FORM			0.65	5.21	2.07	5.59		0.72	4.70	3.08	5.88
N			120.00					120.00			

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 2, GRADE 6, ALL CASES

ITEM	FORM	WORDS IN HIGH MGF 1(R)	2(W)	3(?)	4(NR)	TOT.	FORM	WORDS IN LOW MGF 1(R)	2(W)	3(?)	4(NR)	TOT.	Z(D(R))	Z(D(W))	Z(D(?))
APPEAL 18	A	7 / 0.042	100 / 0.595	27 / 0.161	34 / 0.202	168	B	74 / 0.440	46 / 0.274	32 / 0.190	22 / 0.131	168	-8.55***	6.64***	-0.72
BOTHER	A	83 / 0.494	33 / 0.196	39 / 0.232	13 / 0.077	168	B	66 / 0.393	46 / 0.274	45 / 0.268	11 / 0.065	168	1.87	-1.67	-0.76
HURDLE 21	B	59 / 0.351	30 / 0.179	61 / 0.363	18 / 0.107	168	A	117 / 0.696	1 / 0.006	28 / 0.167	22 / 0.131	168	-6.34***	5.47***	4.08***
BUY 12	A	41 / 0.244	78 / 0.464	41 / 0.244	8 / 0.048	168	B	129 / 0.768	7 / 0.042	23 / 0.137	9 / 0.054	168	-9.60***	8.91***	2.50*
CHANNEL 15	A	52 / 0.310	60 / 0.357	42 / 0.250	14 / 0.083	168	B	18 / 0.107	96 / 0.571	28 / 0.167	26 / 0.155	168	4.57***	-3.94***	1.88
DRUG 19	B	104 / 0.619	24 / 0.143	31 / 0.185	9 / 0.054	168	A	62 / 0.369	34 / 0.202	58 / 0.345	14 / 0.083	168	4.58***	-1.44	-3.34***
HEDGE 4	B	100 / 0.595	24 / 0.143	33 / 0.196	11 / 0.065	168	A	7 / 0.042	105 / 0.625	29 / 0.173	27 / 0.161	168	10.89***	-9.09***	0.56
HIM 10	B	107 / 0.637	24 / 0.143	22 / 0.131	15 / 0.089	168	A	97 / 0.577	20 / 0.119	31 / 0.135	20 / 0.119	168	1.12	0.65	-1.35
INCENSE 14	A	43 / 0.256	40 / 0.238	43 / 0.256	42 / 0.250	168	B	11 / 0.065	99 / 0.589	29 / 0.173	29 / 0.173	168	4.75***	-6.54***	1.86
KNOT 16	B	85 / 0.506	40 / 0.238	27 / 0.161	16 / 0.095	168	A	110 / 0.655	8 / 0.048	37 / 0.220	13 / 0.077	168	-2.76**	4.99***	-1.39
MOTOR 9	A	80 / 0.476	41 / 0.244	40 / 0.238	7 / 0.042	168	B	75 / 0.446	48 / 0.286	23 / 0.137	22 / 0.131	168	0.55	-0.87	2.38*
PLANE 8	A	89 / 0.524	17 / 0.101	50 / 0.298	13 / 0.077	168	B	19 / 0.113	114 / 0.679	25 / 0.129	15 / 0.089	168	8.08***	-10.85***	4.03***
POLL 6	A	16 / 0.095	56 / 0.333	55 / 0.327	41 / 0.244	168	B	20 / 0.119	95 / 0.565	25 / 0.149	28 / 0.167	168	-0.71	-4.28***	3.84***
POLICE 11	B	108 / 0.643	24 / 0.143	31 / 0.185	5 / 0.030	168	A	84 / 0.500	38 / 0.226	32 / 0.190	14 / 0.083	168	2.65**	-1.97*	-0.14
SCARE 1	B	137 / 0.815	7 / 0.042	22 / 0.131	2 / 0.012	168	A	45 / 0.269	46 / 0.274	66 / 0.393	11 / 0.065	168	10.07***	-5.84***	-5.46***
SNAKE 3	A	64 / 0.381	50 / 0.298	49 / 0.292	5 / 0.030	168	B	106 / 0.631	37 / 0.220	20 / 0.119	5 / 0.030	168	-4.58***	1.62	3.92***
SPEAR 20	A	33 / 0.196	87 / 0.518	32 / 0.190	16 / 0.095	168	B	43 / 0.256	86 / 0.512	24 / 0.143	15 / 0.089	168	-1.30	0.11	1.17
SWAMP 7	B	55 / 0.327	76 / 0.452	31 / 0.185	6 / 0.036	168	A	45 / 0.268	80 / 0.476	30 / 0.179	13 / 0.077	168	1.19	-0.44	0.14
TWINE 17	B	81 / 0.482	33 / 0.196	33 / 0.196	21 / 0.125	168	A	91 / 0.542	30 / 0.179	25 / 0.149	22 / 0.131	168	-1.09	0.42	1.15
WOOZY 2	A	34 / 0.202	102 / 0.607	30 / 0.179	2 / 0.012	168	B	75 / 0.445	38 / 0.226	47 / 0.280	8 / 0.048	168	-4.78***	7.08***	-2.21*
YELL 13	B	115 / 0.685	17 / 0.101	26 / 0.155	10 / 0.060	168	A	91 / 0.542	25 / 0.149	40 / 0.234	12 / 0.071	168	2.69**	-1.32	-1.92
COLUMN SUMS		1662 / 0.420	943 / 0.273	765 / 0.217	308 / 0.087	3528		1385 / 0.393	1093 / 0.310	692 / 0.196	358 / 0.101	3528			

TABLE 5.5   DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 2, GRADE 6, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS

WORD	ITEM	H(HIGH) E(H)	E(L)	E(A)	M	H(LOW) E(H)	E(L)	E(A)	M	ALL CASES E(H)	E(L)	E(A)	M	HEADL. F(1,330)	EVAL. F(2,330)	H*E F(2,330)
APPEAL	14	7.054	0.271	0.0	0.042	0.446	0.429	0.446	0.440	0.250	0.250	0.223	0.241	91.953***	0.184	0.389
AUTHOR	4	0.071	0.429	0.442	0.494	0.411	0.446	0.221	0.393	0.491	0.438	0.402	0.443	3.503	0.921	1.212
HUBBLE	21	0.375	0.290	0.375	0.351	0.625	0.759	0.714	0.696	0.509	0.518	0.545	0.524	45.281***	0.175	1.709
JOY	12	0.214	0.268	0.250	0.244	0.750	0.750	0.804	0.768	0.482	0.509	0.527	0.506	125.197***	0.307	0.210
CHANNEL	15	0.141	0.429	0.339	0.310	0.099	0.161	0.071	0.107	0.125	0.295	0.205	0.208	22.870***	5.362**	2.394
DRUG	16	0.589	0.696	0.571	0.619	0.296	0.339	0.482	0.369	0.438	0.518	0.527	0.494	22.479**	1.160	2.408
HEDGE	4	0.625	0.643	0.518	0.595	0.036	0.036	0.054	0.042	0.330	0.339	0.286	0.318	182.049***	0.653	1.200
HUM	18	0.579	0.643	0.589	0.637	0.643	0.528	0.571	0.577	0.661	0.580	0.580	0.607	1.240	1.005	0.385
INCREASE	14	0.204	0.143	0.256	0.256	0.054	0.054	0.089	0.065	0.179	0.098	0.205	0.161	24.444***	2.793	1.743
KNOT	16	0.446	0.589	0.442	0.506	0.589	0.679	0.696	0.655	0.518	0.634	0.589	0.580	7.772**	1.604	0.460
MOTOR	5	0.500	0.536	0.250	0.476	0.339	0.643	0.357	0.446	0.420	0.589	0.375	0.461	0.309	5.938**	2.086
PLANE	8	0.464	0.571	0.536	0.524	0.125	0.143	0.071	0.113	0.295	0.357	0.304	0.318	80.250***	0.725	0.657
ROLL	6	0.107	0.036	0.143	0.095	0.107	0.125	0.125	0.119	0.107	0.080	0.134	0.107	0.495	0.835	0.659
POLICE	11	0.643	0.679	0.607	0.643	0.536	0.464	0.500	0.500	0.589	0.571	0.554	0.571	7.046**	0.147	0.440
SCALE	1	0.804	0.796	0.857	0.815	0.286	0.304	0.214	0.268	0.545	0.545	0.536	0.542	143.768***	0.017	1.138
SNAKE	3	0.429	0.321	0.393	0.381	0.589	0.661	0.643	0.631	0.509	0.491	0.518	0.506	22.141***	0.088	0.941
SPEAR	20	0.107	0.143	0.143	0.196	0.268	0.250	0.250	0.256	0.188	0.295	0.196	0.226	1.731	2.302	2.821
SWAMP	7	0.375	0.321	0.296	0.327	0.286	0.236	0.232	0.268	0.330	0.304	0.259	0.298	1.411	0.651	0.099
THINK	17	0.536	0.464	0.446	0.482	0.446	0.643	0.536	0.552	0.491	0.554	0.491	0.512	1.193	0.585	2.088
WEARY	2	0.196	0.196	0.214	0.202	0.446	0.411	0.482	0.446	0.321	0.304	0.348	0.324	24.108***	0.272	0.100
YELL	17	0.696	0.750	0.607	0.585	0.482	0.500	0.643	0.542	0.589	0.625	0.625	0.613	7.392**	0.205	2.926

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINU .

LEVEL 2, GRADE 6, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H). THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE, THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM	FORM	WORDS IN HIGH MGF A	V	E	H	FORM	WORDS IN LOW MGF A	V	E	H
APPEAL	16	A	11.29	17.57	15.43		B	11.51	15.49	16.66	12.53
			-0.299	0.439	0.349	0.638		-0.191	0.614	0.453	0.756
BOTHER	5	A	11.66	14.93	16.55	11.61	B	11.53	15.09	16.38	12.39
			-0.065	0.607	0.420	0.830		-0.148	0.675	0.310	0.664
BUBBLE	21	B	11.53	14.36	16.27	12.75	A	11.59	13.94	16.28	10.49
			-0.145	0.301	0.250	0.693		-0.330	0.034	0.458	0.928
BUY	12	A	11.63	15.02	16.37	12.68	B	11.55	13.87	16.11	11.02
			-0.075	0.395	0.205	0.672		-0.288	0.546	0.516	0.932
CHANNEL	15	A	11.6.	15.62	16.97	12.42	B	11.39	14.22	16.78	13.33
			-0.137	0.545	0.407	0.717		-0.210	0.168	0.260	0.480
DRUG	10	B	11.54	14.04	16.06	11.77	A	11.55	14.84	16.89	12.53
			-0.216	0.410	0.304	0.849		-0.225	0.463	0.462	C.819
HEDGE	4	B	11.56	14.60	16.09	11.64	A	11.57	18.14	17.06	14.00
			-0.153	0.565	0.305	0.762		-0.091	0.515	0.403	0.516
HUM	19	B	11.52	13.72	16.07	11.36	A	11.63	14.61	15.48	11.43
			-0.265	0.317	0.322	0.747		-0.155	0.634	0.459	0.940
INCREASE	14	A	11.47	16.12	17.09	12.84	B	11.36	15.27	15.45	14.27
			-0.286	0.569	0.441	0.710		-0.206	0.260	-0.016	0.531
KNOT	16	B	11.53	14.55	16.52	12.21	A	11.57	14.17	16.25	10.99
			-0.186	0.454	0.449	0.777		-0.342	0.617	0.389	0.990
MOTOR	9	A	11.54	15.19	16.56	12.31	B	11.60	14.96	16.27	12.29
			-0.205	0.645	0.409	0.952		-0.043	0.498	0.297	0.711
PLANE	8	A	11.59	14.73	16.60	11.52	B	11.58	14.95	16.53	13.11
			-0.216	0.595	0.471	0.860		-0.042	0.259	0.210	0.468
POLL	6	A	11.50	17.13	16.63	14.13	B	11.45	16.50	16.85	12.35
			-0.172	0.510	0.207	0.634		-0.161	0.453	0.283	0.283
POLICE	11	B	11.56	14.05	16.27	11.66	A	11.54	14.11	16.46	11.39
			-0.159	0.437	0.454	0.861		-0.313	0.420	0.380	0.790
SCARE	1	B	11.58	13.72	15.96	10.64	A	11.51	14.33	16.40	12.44
			-0.192	0.560	0.467	0.896		-0.234	0.307	0.356	0.668
SNAKE	3	A	11.58	15.50	16.68	12.42	B	11.54	14.36	16.31	11.33
			-0.184	0.599	0.467	0.817		-0.224	0.532	0.466	0.725
SPEAR	20	A	11.61	13.64	16.39	11.77	B	11.60	15.28	17.05	13.23
			-0.099	0.174	0.195	0.497		-0.025	0.403	0.434	0.652
SWAMP	7	B	11.47	15.58	16.89	13.02	A	11.58	13.67	16.20	11.27
			-0.212	0.516	0.443	0.705		-0.150	0.204	0.160	0.494
TWINE	17	B	11.48	14.93	16.49	12.28	A	11.57	14.77	16.93	11.65
			-0.266	0.526	0.417	0.759		-0.265	0.628	0.670	0.924
WORRY	2	B	11.47	14.29	15.53	11.41	B	11.53	15.15	16.85	12.20
			-0.170	0.218	-0.003	0.322		-0.286	0.601	0.518	C.877
YELL	13	B	11.53	14.14	16.03	11.46	A	11.55	14.14	16.64	11.24
			-0.279	0.526	0.338	0.886		-0.312	0.466	C.508	0.823
MEANS BY FORM		A	11.70	12.34	15.71	7.92	B	11.63	12.81	15.54	9.20
S.D.'S BY FORM			0.64	5.28	2.50	5.51		0.55	4.87	2.76	4.91
N			163.00					168.00			

TABLE 2.? DATA FROM MAIN STUDY: HEAR INFO TEST (CONTINUED)

LEVEL 2, GRADE 9, ALL CASES

			WORDS IN HIGH MGF						WORDS IN LOW MGF							
ITEM	FORM	1(R)	2(W)	3(?)	4(NR)	TOT.	FORM	1(R)	2(W)	3(?)	4(NR)	TOT.	Z(DIR)	Z(D(W))	Z(D(?))
APPEAL 18	A	40 0.296	67 0.496	13 0.096	15 0.111	135	B	91 0.674	11 0.081	19 0.141	14 0.104	135	-6.21***	7.52***	-1.13
NOTARY	B	58 0.496	20	12	5 0.037	135	B	77 0.570	28 0.207	20 0.148	10 0.074	135	2.68**	-1.27	-1.51
MIRACLE 21	B	42 0.726	57 0.148	57 0.089	21 0.037	135	A	112 0.570	4 0.207	10 0.148	9 0.074	135	-8.61***	2.62**	6.62***
NUD 12	A	71 0.311	15 0.111	7 0.422	21 0.156	135	B	112 0.830	4 0.330	10 0.074	6 0.067	135	-5.34***	4.58***	-0.20
CHANNEL 15	A	64 0.526	44 0.326	13 0.096	10 0.052	135	B	41 0.830	3 0.022	14 0.104	7 0.044	135	2.87**	-2.62**	0.93
DWING 16	B	81 0.474	42 0.311	19 0.141	10 0.074	135	B	41 0.304	63 0.467	14 0.104	17 0.126	135	1.59	-0.88	-0.34
MEDGE 4	B	52 0.600	27 0.200	22 0.141	8 0.059	135	A	68 0.504	33 0.244	21 0.156	13 0.096	135	7.84***	-6.55***	1.83
MUM 19	A	85 0.681	15 0.111	17 0.163	6 0.044	135	A	28 0.207	64 0.474	32 0.089	31 0.230	135	-2.10*	1.53	0.57
INCREASE 14	A	65 0.430	24 0.111	17 0.126	18 0.133	135	A	101 0.748	8 0.059	14 0.104	12 0.089	135	5.60***	-4.38***	-0.51
KNOT 16	B	84 0.491	27 0.178	13 0.141	27 0.200	135	B	22 0.163	57 0.422	34 0.163	6 0.252	135	-3.82***	3.44***	0.89
MOTTO 7	A	85 0.622	23 0.200	10 0.096	11 0.081	135	A	112 0.830	8 0.059	9 0.067	6 0.044	135	2.16*	-1.36	-0.65
PLANK 9	A	50 0.704	9 0.170	19 0.074	8 0.052	135	B	78 0.578	32 0.237	13 0.096	12 0.089	135	5.41***	-6.26***	0.93
POLL 6	A	65 0.733	32 0.067	27 0.141	11 0.059	135	B	55 0.407	57 0.385	14 0.104	14 0.104	135	0.12	-0.97	1.29
POLICE 11	B	58 0.481	9 0.237	21 0.200	7 0.081	135	B	64 0.474	39 0.289	19 0.141	13 0.096	135	1.31	-2.64**	1.07
SCARE 1	B	105 0.724	9 0.067	16 0.154	5 0.052	135	A	89 0.652	23 0.170	15 0.111	9 0.067	135	6.42***	-6.58***	-0.72
SNAKE 3	A	83 0.778	26 0.067	23 0.119	3 0.037	135	B	53 0.393	55 0.407	20 0.148	7 0.052	135	-2.63**	1.14	2.42*
SPEAR 20	A	31 0.615	81 0.193	13 0.170	10 0.022	135	B	103 0.763	19 0.141	10 0.074	3 0.022	135	-0.70	0.86	0.0
SWAMP 7	B	65 0.230	43 0.600	24 0.096	10 0.074	135	B	36 0.267	74 0.548	13 0.096	12 0.089	135	2.60**	-3.45***	2.15*
TWINE 17	B	87 0.481	13 0.319	15 0.178	20 0.022	175	A	44 0.326	71 0.526	12 0.089	8 0.059	135	-2.27*	0.89	0.83
WORRY 5	B	69 0.644	40 0.096	20 0.111	6 0.148	135	A	104 0.770	9 0.067	11 0.081	11 0.081	135	-0.61	0.82	-0.66
YELL 13	B	99 0.411	14 0.296	16 0.148	6 0.044	135	A	74 0.548	34 0.252	24 0.178	3 0.022	135	-1.00	0.41	0.80
		99 0.733			6 0.044	135	A	106 0.785	12 0.089	12 0.089	5 0.037	135			
COLUMN SUMS		1618 0.571	595 0.210	408 0.144	214 0.075	2835		1569 0.553	699 0.247	318 0.112	249 0.088	2835			

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 2, GRADE 9, ALL CASES

ANALYSIS OF VARIANCE OF H-H FORM COMBINATIONS

WORD	ITEM	H(HIGH)				H(LOW)				ALL CASES				HEADL.	EVAL.	H*E
		E(H)	E(L)	E(A)	M	E(H)	E(L)	E(A)	M	E(H)	E(L)	E(A)	M	$F_{(1,264)}$	$F_{(2,264)}$	$F_{(2,264)}$
APPEAL	18	0.700	0.356	0.333	0.296	0.667	0.600	0.756	0.674	0.433	0.478	0.544	0.485	44.915***	1.312	1.451
BOTHER	5	0.711	0.733	0.733	0.726	0.511	0.667	0.533	0.570	0.611	0.702	0.633	0.648	7.273**	0.858	0.594
PURPLE	21	0.267	0.333	0.333	0.311	0.756	0.844	0.889	0.830	0.511	0.589	0.611	0.570	100.936***	1.380	0.144
BUY	12	0.489	0.533	0.556	0.526	0.733	0.889	0.867	0.830	0.611	0.711	0.711	0.678	31.609***	1.523	0.357
CHANNEL	15	0.511	0.422	0.489	0.474	0.244	0.333	0.333	0.304	0.378	0.378	0.411	0.389	8.373**	0.142	0.776
DRUG	10	0.689	0.644	0.467	0.600	0.511	0.533	0.467	0.504	0.600	0.589	0.467	0.552	2.550	2.007	0.739
HEDGE	4	0.556	0.711	0.778	0.681	0.222	0.178	0.222	0.207	0.389	0.444	0.500	0.444	79.675***	1.459	1.770
HUM	19	0.556	0.756	0.578	0.630	0.889	0.844	0.711	0.749	0.622	0.800	0.644	0.689	4.535*	4.039*	0.071
INCENSE	14	0.622	0.467	0.444	0.481	0.222	0.156	0.111	0.163	0.378	0.311	0.278	0.322	35.007***	1.193	0.019
KNOT	16	0.689	0.578	0.600	0.622	0.867	0.778	0.844	0.830	0.778	0.678	0.722	0.726	15.237***	1.185	0.136
MOTOR	6	0.800	0.556	0.756	0.704	0.489	0.644	0.600	0.578	0.644	0.600	0.678	0.641	4.792*	0.613	4.095*
PLANE	8	0.778	0.756	0.667	0.733	0.289	0.533	0.400	0.407	0.533	0.644	0.533	0.570	33.017***	1.705	2.115
GIRL	2	0.556	0.444	0.444	0.481	0.556	0.46	0.422	0.474	0.556	0.444	0.433	0.478	0.015	1.631	0.015
POLICE	11	0.667	0.756	0.756	0.726	0.556	0.667	0.733	0.652	0.611	0.711	0.744	0.689	1.730	2.024	0.225
SCARE	1	0.822	0.756	0.756	0.778	0.400	0.533	0.444	0.393	0.611	0.544	0.600	0.585	47.974***	0.550	0.444
FRAME	3	0.578	0.622	0.644	0.615	0.733	0.844	0.711	0.763	0.656	0.733	0.678	0.689	7.006**	0.683	0.648
SPEAR	20	0.289	0.156	0.244	0.230	0.267	0.267	0.267	0.257	0.278	0.211	0.256	0.248	0.490	0.549	0.549
SWAMP	7	0.533	0.444	0.467	0.481	0.244	0.489	0.244	0.326	0.389	0.467	0.356	0.404	7.025**	1.259	3.011
TRAIN	17	0.689	0.600	0.644	0.644	0.711	0.756	0.844	0.770	0.700	0.678	0.744	0.707	5.211*	0.505	0.938
WEARY	9	0.489	0.467	0.578	0.511	0.444	0.644	0.556	0.548	0.467	0.556	0.567	0.550	0.371	1.082	1.349
YELL	13	0.800	0.756	0.644	0.733	0.867	0.711	0.778	0.785	0.833	0.733	0.711	0.759	0.997	2.056	0.997

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 2, GRADE 9, ALL CASES

FIRST LINE GIVES CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE.
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM	FORM	A	V	E	H	FORM	A	V	E	H
APPEAL	18	A	14.47	20.67	19.50	15.92	B	14.56	19.59	17.67	14.29
			-0.264	0.476	0.470	0.657		-0.320	0.570	0.552	0.870
MOTHER	5	A	14.62	18.95	17.55	15.86	B	14.53	19.92	17.58	14.52
			-0.134	0.460	0.377	0.820		-0.309	0.561	0.377	0.737
BURBLE	21	B	14.40	19.45	17.38	15.07	A	14.65	18.50	17.55	13.31
			-0.357	0.237	0.155	0.536		-0.041	0.398	0.569	0.895
BUY	12	A	14.58	19.65	18.08	14.82	B	14.65	19.04	17.30	13.32
			-0.181	0.467	0.515	0.736		-0.110	0.544	0.470	0.942
CHANNEL	15	A	14.67	18.59	17.72	14.80	B	14.44	20.51	18.00	15.95
			0.025	0.167	0.287	0.659		-0.307	0.462	0.375	0.669
DRUG	10	B	14.53	19.53	17.53	14.25	A	14.62	19.44	17.82	14.41
			-0.335	0.44.	0.369	0.711		-0.088	0.390	0.359	0.607
HEDGE	4	B	14.60	18.99	17.37	14.01	A	14.46	21.50	18.79	15.75
			-0.219	0.296	0.326	0.791		-0.236	0.521	0.489	0.531
MUD	19	?	14.66	19.31	17.47	13.95	A	14.59	18.82	17.70	13.83
			-0.033	0.389	0.355	0.673		-0.255	0.435	0.550	0.871
INCENSE	14	A	14.60	19.85	17.91	15.32	B	14.55	19.50	17.86	16.18
			-0.129	0.471	0.384	0.789		-0.128	0.186	0.240	0.536
KNOT	16	B	14.57	19.67	17.55	14.23	A	14.59	18.49	17.67	13.31
			-0.253	0.528	0.400	0.743		-0.382	0.456	0.723	0.895
MOTOR	9	A	14.64	18.84	17.72	13.83	B	14.67	19.3.	17.54	14.28
			-0.058	0.386	0.489	0.757		-0.016	0.359	0.355	0.685
PLANE	8	A	14.61	19.15	17.70	14.11	B	24.55	20.36	18.09	15.13
			-0.198	0.561	0.610	0.947		-0.203	0.520	0.492	0.650
POLL	6	A	14.57	20.38	18.17	15.06	B	14.52	20.39	17.70	14.92
			-0.182	0.601	0.513	0.729		-0.284	0.598	0.368	0.692
POLICE	11	B	14.60	19.28	17.65	14.14	A	14.57	19.41	18.06	14.31
			-0.236	0.492	0.627	0.756		-0.268	0.534	0.668	0.814
SCARE	1	B	14.58	18.97	17.36	13.56	A	14.60	18.62	17.49	14.60
			-0.365	0.393	0.438	0.867		-0.095	0.149	0.152	0.528
SNAKE	3	A	14.57	19.83	18.01	14.47	B	14.55	18.86	17.36	13.25
			-0.250	0.622	0.580	0.791		-0.448	0.306	0.412	0.680
SPEAR	20	A	14.77	19.61	17.81	15.84	B	14.58	19.28	17.53	15.64
			0.145	0.260	0.209	0.567		-0.111	0.184	0.192	0.578
SWAMP	7	A	14.57	20.11	18.02	15.08	A	14.59	19.20	17.66	14.23
			-0.191	0.522	0.529	0.737		-0.103	0.237	0.196	0.404
THINE	17	B	14.55	19.64	17.53	14.60	A	14.63	18.98	17.78	13.88
			-0.318	0.545	0.410	0.903		-0.104	0.552	0.674	0.964
WORRY	2	B	14.48	19.58	17.83	15.10	A	14.59	19.35	17.99	14.26
			-0.378	0.386	0.461	0.787		-0.150	0.403	0.485	0.625
YELL	13	B	14.64	18.91	17.22	13.62	A	14.63	18.90	17.78	13.75
			-0.127	0.302	0.246	0.763		-0.122	0.539	0.718	0.959
MEANS BY FORM		A	14.66	17.89	17.13	11.86	B	14.67	18.36	16.96	11.75
S.D.'S BY FORM			0.60	5.02	2.46	5.31		0.66	4.04	2.42	5.46
N			135.00					135.00			

TABLE 6.3 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 3. GRADE 6. ALL CASES

WORD	ITEM	FORM	──GRPS IN HIGH MGF──					FORM	──WORDS IN LOW MGF──					Z(D(R))	Z(D(W))	Z(D(?))
			1(R)	2(W)	3(?)	4(NR)	TCT		1(R)	2(W)	3(?)	4(NR)	TOT			
ANIMATE	11	A	28 / 0.173	90 / 0.556	29 / 0.179	15 / 0.093	162	B	2 / 0.012	85 / 0.525	35 / 0.216	40 / 0.247	162	4.9?***	0.56	-0.84
ENGLISH	21	B	41 / —	—	77 / —	41 / —	162	A	85 / 0.525	25 / 0.154	24 / 0.148	28 / 0.173	162	-3.60***	2.21*	0.46
BUFFALO	16	A	46 / 0.327	56 / 0.253	36 / 0.167	24 / 0.253	162	B	13 / 0.525	80 / 0.494	21 / 0.148	48 / 0.173	16?	4.75***	-2.70**	2.19*
ECLIPSE	9	B	68 / 0.294	38 / 0.344	35 / 0.222	21 / 0.148	162	A	40 / 0.080	43 / 0.494	27 / 0.130	52 / 0.296	162	3.35***	-0.64	1.13
EXTREME	17	A	80 / 0.420	26 / 0.235	35 / 0.216	21 / 0.130	162	B	40 / 0.247	43 / 0.265	27 / 0.167	52 / 0.321	162	8.38***	-4.61***	-0.64
HOIST	5	B	66 / 0.494	43 / —	26 / —	24 / —	162	A	12 / 0.074	63 / 0.389	25 / 0.154	62 / 0.383	162	3.54***	1.04	-3.61***
IMPRESS	6	A	65 / 0.426	41 / 0.265	26 / 0.160	24 / 0.148	162	B	39 / 0.241	35 / 0.216	54 / 0.333	34 / 0.210	162	1.03	-0.63	0.0
MELLOW	14	B	53 / 0.401	58 / 0.253	24 / 0.255	27 / 0.085	162	A	56 / 0.346	46 / 0.284	42 / 0.259	18 / 0.111	162	2.38*	0.23	-3.67***
MIRACLE	10	A	47 / 0.327	71 / 0.358	26 / 0.148	18 / 0.167	162	B	89 / 0.210	25 / 0.346	23 / 0.321	35 / 0.123	162	-4.73***	5.60***	0.47
NOVEL	1	B	33 / 0.290	43 / 0.438	28 / 0.160	11 / 0.111	162	A	49 / 0.549	49 / 0.154	51 / 0.142	13 / 0.154	162	3.84***	-1.12	-2.98**
OUTRAGE	18	A	21 / 0.512	66 / 0.247	34 / 0.173	41 / 0.068	162	A	37 / 0.302	73 / 0.302	33 / 0.315	19 / 0.080	162	-2.32*	-0.79	0.14
ADVENTURE	3	A	95 / 0.13?	30 / 0.407	32 / 0.210	5 / 0.253	162	B	76 / 0.228	40 / 0.451	35 / 0.204	11 / 0.117	162	2.11*	-1.35	-0.41
PARROT	13	B	99 / 0.386	18 / 0.185	34 / 0.198	11 / 0.031	162	B	22 / 0.469	98 / 0.247	15 / 0.216	27 / 0.068	162	8.84***	-9.27***	2.95**
PENSION	2	A	13 / 0.611	63 / 0.111	51 / 0.210	35 / 0.068	162	B	9 / 0.136	75 / 0.605	28 / 0.093	50 / 0.167	162	0.98	-1.35	2.98**
PLANK	8	B	34 / 0.080	39 / 0.389	30 / 0.315	12 / 0.216	162	A	34 / 0.056	83 / 0.463	28 / 0.173	17 / 0.309	162	5.46***	-5.05***	0.29
PRESSURE	7	A	56 / 0.500	47 / 0.241	36 / 0.185	23 / 0.074	162	A	16 / 0.210	111 / 0.512	26 / 0.173	9 / 0.105	162	5.25***	-7.11***	1.41
PRIMARY	20	A	20 / 0.346	46 / 0.290	31 / 0.222	45 / 0.142	162	B	38 / 0.099	45 / 0.685	30 / 0.160	43 / 0.056	162	-2.61**	2.46*	-0.69
SECTION	19	B	67 / 0.123	36 / 0.407	35 / 0.191	24 / 0.278	162	B	52 / 0.235	49 / 0.278	31 / 0.222	30 / 0.265	162	1.73	-1.64	0.55
SOLATION	4	B	107 / 0.?14	13 / 0.222	29 / 0.216	15 / 0.148	162	A	16 / 0.321	44 / 0.302	38 / 0.191	14 / 0.185	162	10.42***	-9.85***	-1.23
STRUCTURE	15	A	75 / 0.?6?	30 / 0.069	34 / 0.175	23 / 0.093	162	B	14 / 0.029	75 / 0.580	29 / 0.235	44 / 0.086	162	7.59***	-5.34***	0.70
TODAY	12	B	53 / 0.463	60 / 0.185	13 / 0.210	26 / 0.142	162	A	22 / 0.086	81 / 0.463	38 / 0.179	21 / 0.272	162	4.08***	-2.35*	-3.81***
COLUMN SUMS			1270 / 0.17?	970 / 0.285	653 / 0.172	500 / 0.147	3402		755 / 0.222	1331 / 0.391	591 / 0.203	625 / 0.184	3402			

TABLE 5.5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 3, GRADE 6, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS

WORD	ITEM	(HIGH) E(H)	E(L)	E(A)	M	(LOW) E(H)	E(L)	E(A)	M	ALL CASES E(H)	E(L)	E(A)	M	HEADL. F(1,318)	EVAL. F(2,318)	H*E F(2,318)
ANIMATE	11	0.741	0.130	0.148	0.173	0.037	0.0	0.0	0.012	0.139	0.065	0.074	0.093	26.858***	2.265	0.516
MOUSE	21	0.399	0.315	0.278	0.327	0.574	0.500	0.500	0.525	0.481	0.407	0.389	0.426	13.308***	1.092	0.052
BUFFALO	16	0.296	0.296	0.259	0.284	0.019	0.130	0.093	0.080	0.157	0.213	0.176	0.182	24.019***	0.618	0.794
ECLIPSE	9	0.407	0.463	0.389	0.420	0.167	0.296	0.278	0.247	0.287	0.380	0.333	0.333	11.170***	1.069	0.527
EPIDEMIC	17	0.574	0.444	0.463	0.494	0.074	0.093	0.056	0.074	0.324	0.269	0.259	0.284	88.923***	0.827	0.942
HOIST	5	0.574	0.352	0.352	0.426	0.259	0.241	0.222	0.241	0.417	0.296	0.287	0.333	13.104***	2.665	1.616
IMPRESS	6	0.426	0.389	0.389	0.401	0.352	0.3..	0.352	0.346	0.389	0.361	0.370	0.373	1.053	0.091	0.039
MELLOW	14	0.315	0.352	0.315	0.327	0.204	0.222	0.204	0.210	0.259	0.287	0.259	0.264	5.672*	0.141	0.016
MIRAGE	19	0.370	0.296	0.204	0.290	0.500	0.611	0.537	0.549	0.435	0.454	0.370	0.420	23.923***	0.909	1.505
NOVEL	1	0.481	0.463	0.593	0.512	0.407	0.241	0.259	0.302	0.444	0.352	0.426	0.407	15.495***	1.126	1.984
OUTRAGE	18	0.167	0.074	0.148	0.130	0.204	0.278	0.204	0.228	0.185	0.176	0.176	0.179	5.419*	0.021	1.545
OVERTURN	3	0.611	0.574	0.574	0.586	0.426	0.500	0.481	0.469	0.519	0.537	0.528	0.528	4.461*	0.037	0.383
PARROT	13	0.630	0.593	0.611	0.611	0.111	0.185	0.111	0.136	0.370	0.389	0.361	0.373	101.596***	0.120	0.531
PENSION	2	0.093	0.111	0.037	0.080	0.093	0.056	0.019	0.056	0.093	0.083	0.028	0.068	0.779	2.095	0.341
PLANK	9	0.426	0.556	0.556	0.500	0.241	0.241	0.148	0.210	0.333	0.380	0.352	0.355	32.567***	0.280	1.607
PRESSURE	7	0.333	0.407	0.296	0.346	0.056	0.185	0.056	0.099	0.194	0.296	0.176	0.222	31.338***	2.879	0.137
PRIMARY	20	0.111	0.204	0.056	0.123	0.259	0.241	0.204	0.235	0.185	0.222	0.130	0.179	6.924**	1.624	0.769
SLEIGH	15	0.426	0.463	0.352	0.414	0.315	0.407	0.241	0.321	0.370	0.435	0.296	0.367	3.005	2.257	0.120
SPLINTER	4	0.685	0.630	0.667	0.660	0.056	0.111	0.130	0.099	0.370	0.370	0.398	0.380	160.944***	0.175	0.603
STRUCTURE	18	0.519	0.370	0.500	0.463	0.093	0.111	0.056	0.086	0.306	0.241	0.278	0.275	69.859***	0.655	1.708
TAFFY	12	0.399	0.352	0.241	0.327	0.148	0.130	0.130	0.136	0.269	0.24.	0.185	0.231	17.461***	1.145	0.781

TABLE 5.5   DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 3, GRADE 6, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE.
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM	FORM	WORDS IN HIGH MGF A	V	E	H	FORM	WORDS IN LOW MGF A	V	E	H
ANIMATE	11	A	11.50	16.07	15.39	11.68	B	12.00	12.00	16.00	9.00
			-0.238	0.442	0.360	0.754		0.160	-0.014	0.254	0.264
BLOUSE	21	B	11.60	15.25	15.70	9.85	A	11.65	14.11	14.58	8.82
			-0.250	0.508	0.518	0.814		-0.157	0.458	0.333	0.678
BUFFALO	16	A	11.57	15.83	15.41	10.85	B	11.46	17.62	14.85	10.08
			-0.208	0.559	0.453	0.789		-0.202	0.537	0.166	0.514
ECLIPSE	9	A	11.50	14.74	14.65	9.65	C	11.60	15.35	15.02	9.22
			-0.378	0.499	0.298	0.739		-0.133	0.453	0.284	0.583
EPIDEMIC	17	A	11.55	14.86	15.00	9.60	B	11.42	14.83	15.50	9.75
			-0.338	0.605	0.493	0.840		-0.233	0.257	0.270	0.462
MOIST	5	B	11.68	15.46	15.35	9.48	A	11.49	15.95	15.33	10.79
			-0.056	0.653	0.503	0.877		-0.288	0.533	0.396	0.719
IMPRESS	6	A	11.49	14.66	15.08	9.68	B	11.55	13.20	14.75	7.57
			-0.049	0.468	0.441	0.721		-0.224	0.172	0.262	0.321
MELLOW	14	B	11.58	15.62	15.36	9.11	A	11.53	17.44	16.06	11.47
			-0.175	0.571	0.423	0.651		-0.222	0.704	0.554	0.781
NIBBLE	19	A	11.57	14.66	14.62	9.98	B	11.60	14.52	14.83	8.62
			-0.198	0.382	0.226	0.643		-0.246	0.592	0.422	0.829
NOVEL	1	B	11.60	14.61	15.06	8.65	A	11.61	14.76	14.63	9.47
			-0.215	0.571	0.481	0.778		-0.151	0.406	0.236	0.564
OUTRAGE	18	B	11.43	15.95	16.29	9.81	A	11.65	15.49	15.43	9.84
			-0.259	0.423	0.461	0.544		-0.088	0.456	0.413	0.550
OVERTURN	3	A	11.66	13.89	14.51	8.67	B	11.63	14.33	14.49	8.33
			-0.141	0.465	0.344	0.727		-0.146	0.462	0.233	0.622
PARROT	13	A	11.59	14.08	14.72	8.92	B	11.59	16.45	15.86	9.95
			-0.345	0.547	0.491	0.852		-0.114	0.487	0.387	0.574
PENSION	2	A	11.38	17.23	16.38	12.62	B	11.56	19.11	15.33	10.78
			-0.289	0.501	0.471	0.709		-0.117	0.632	0.228	0.558
PLANK	8	B	11.64	14.00	14.95	8.35	A	11.53	15.71	15.79	10.68
			-0.137	0.415	0.427	0.666		-0.222	0.469	0.363	0.659
PRESSURE	7	B	11.70	15.88	15.59	9.07	A	11.69	15.94	15.75	11.06
			-0.027	0.634	0.504	0.664		-0.031	0.391	0.373	0.561
PRIMARY	20	A	11.50	17.20	16.75	11.80	B	11.53	15.79	15.34	9.61
			-0.213	0.558	0.396	0.691		-0.213	0.504	0.352	0.640
SLEIGH	10	A	11.45	15.66	15.25	10.37	B	11.65	15.35	14.75	9.48
			-0.462	0.675	0.516	0.977		-0.082	0.519	0.250	0.724
SPLINTER	4	B	11.64	14.03	14.54	7.99	A	11.44	15.50	15.44	12.06
			-0.214	0.607	0.387	0.802		-0.256	0.345	0.212	0.681
STRUCTURE	15	A	11.56	15.16	15.13	9.80	B	11.64	17.79	16.00	10.50
			-0.300	0.634	0.518	0.840		-0.059	0.564	0.365	0.580
TAFFY	12	B	11.73	15.00	14.94	9.15	A	11.41	14.27	15.14	10.95
			-0.250	0.457	0.307	0.660		-0.309	0.236	0.277	0.600
WORDS BY FORM		A	11.57	12.23	13.84	6.39	B	11.72	12.20	13.85	6.17
SCORES BY FORM			0.63	0.36	7.91	4.73		0.68	5.44	3.24	4.10
			162.00					162.00			

TABLE 5.5   DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 3, GRADE 9, ALL CASES

ABBR	ITEM	FORM	WORDS IN HIGH MGF 1(R)	2(W)	3(?)	4(NR)	TOT.	FORM	WORDS IN LOW MGF 1(R)	2(W)	3(?)	4(NR)	TOT.	Z(D(R))	Z(D(W))	Z(D(?))
ANIMATE	11	A	56 0.397	58 0.411	15 0.106	12 0.085	141	B	4 0.028	92 0.652	22 0.156	23 0.163	141	7.57***	-4.06***	-1.23
ABUSE	21	B	54 0.397	56 0.397	15 0.106	16 0.113	141	A	89 0.631	22 0.156	12 0.085	18 0.128	141	-4.17***	4.53***	0.61
BUFFALO	16	A	63 0.447	50 0.355	15 0.106	13 0.092	141	B	32 0.227	66 0.468	14 0.099	29 0.206	141	3.91***	-1.94	0.20
ECLIPSE	9	B	84 0.596	37 0.262	17 0.121	3 0.021	141	B	59 0.418	45 0.319	10 0.071	27 0.191	141	2.98**	-1.05	1.42
EPIDEMIC	17	A	105 0.745	18 0.128	3 0.021	15 0.106	141	B	29 0.206	61 0.433	26 0.184	25 0.177	141	9.06***	-5.70***	-4.51***
HOIST	5	B	86 0.610	30 0.213	18 0.128	7 0.050	141	A	70 0.496	15 0.106	42 0.298	14 0.099	141	1.92	2.44**	-3.49***
IMPRESS	6	A	90 0.638	32 0.227	14 0.099	5 0.035	141	B	68 0.482	27 0.191	35 0.248	11 0.078	141	2.64**	0.73	-3.30***
MELLOW	14	B	59 0.418	62 0.440	11 0.078	9 0.064	141	A	82 0.582	28 0.199	19 0.135	12 0.085	141	-2.74**	4.34***	-1.55
NIBBLE	19	A	56 0.397	67 0.475	10 0.071	8 0.057	141	B	91 0.645	26 0.184	10 0.071	14 0.099	141	-4.17***	5.19***	0.0
NOVEL	1	B	116 0.823	9 0.064	11 0.078	5 0.035	141	A	77 0.546	42 0.298	14 0.099	8 0.057	141	5.00***	-5.11***	-0.63
OUTRAGE	18	A	51 0.361	53 0.376	20 0.142	17 0.121	141	A	70 0.496	54 0.383	7 0.050	10 0.071	141	-2.29*	-0.12	2.63**
OVERTURN	3	A	34 0.241	34 0.241	10 0.071	4 0.007	141	B	70 0.496	41 0.291	24 0.170	6 0.043	141	3.15**	-0.94	-2.56**
PARROT	13	A	114 0.809	12 0.085	11 0.078	4 0.028	141	B	40 0.284	80 0.567	10 0.071	11 0.078	141	8.85***	-8.64***	0.23
PENSION	2	A	55 0.390	60 0.426	19 0.135	7 0.050	141	B	35 0.248	64 0.454	24 0.170	18 0.128	141	2.55*	-0.48	-0.83
PLANK	8	B	71 0.504	39 0.277	24 0.170	7 0.050	141	A	64 0.454	49 0.348	19 0.135	9 0.064	141	0.83	-1.29	0.83
PRESSURE	7	B	67 0.475	27 0.191	32 0.227	15 0.106	141	A	42 0.298	84 0.596	9 0.064	6 0.043	141	3.06**	-6.95***	3.89***
PRIMARY	20	A	70 0.496	36 0.255	13 0.092	22 0.156	141	B	81 0.574	25 0.177	18 0.128	17 0.121	141	-1.31	1.59	-0.95
SLEIGH	10	B	81 0.574	32 0.227	18 0.128	10 0.071	141	B	63 0.447	50 0.355	16 0.113	12 0.085	141	2.14*	-2.36*	0.37
SPLINTER	4	A	101 0.716	7 0.050	23 0.163	10 0.071	141	B	31 0.220	88 0.624	8 0.057	8 0.057	141	8.35***	-10.21***	1.59
STRUCTURE	15	A	58 0.416	24 0.170	7 0.050	12 0.085	141	A	18 0.128	86 0.610	21 0.149	16 0.113	141	9.68***	-7.57***	-2.79**
TANGY	12	B	81 0.574	35 0.248	10 0.071	15 0.106	141	A	18 0.128	94 0.667	15 0.106	14 0.099	141	7.86***	-7.05***	-1.05
COLUMN SUMS			1654 0.559	778 0.263	316 0.107	213 0.072	2961		1133 0.383	1139 0.385	381 0.129	308 0.104	2961			

TABLE 5-5 DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 3, GRADE 9, ALL CASES

ANALYSIS OF VARIANCE OF E-H FORM COMBINATIONS

WORD	ITEM	H(HIGH)				H(LOW)				ALL CASES				HEADL. F(1,276)	EVAL. F(2,276)	H*E F(2,276)
		E(H)	E(L)	E(A)	M	E(H)	E(L)	E(A)	M	E(H)	E(L)	E(A)	M			
ANIMATE	16	0.511	0.362	0.319	0.367	0.021	0.064	0.0	0.028	0.266	0.213	0.160	0.213	72.316***	2.006	1.952
BLOUSE	21	0.340	0.340	0.468	0.383	0.638	0.723	0.532	0.631	0.489	0.532	0.500	0.507	18.512***	0.196	2.735
BUFFALO	24	0.447	0.447	0.447	0.447	0.255	0.191	0.234	0.227	0.351	0.319	0.340	0.337	15.810***	0.115	0.115
ECLIPSE	9	0.596	0.617	0.574	0.596	0.340	0.404	0.511	0.418	0.468	0.511	0.543	0.507	9.058**	0.536	0.971
EPIDEMIC	17	0.766	0.681	0.787	0.745	0.170	0.213	0.234	0.206	0.468	0.447	0.511	0.475	114.327***	0.554	0.554
MOIST	5	0.638	0.681	0.511	0.610	0.468	0.574	0.447	0.496	0.553	0.628	0.479	0.553	3.705	2.128	0.275
IMPRESS	6	0.723	0.574	0.617	0.638	0.511	0.532	0.404	0.482	0.617	0.553	0.511	0.560	7.095**	1.114	0.938
MELLOW	14	0.532	0.258	0.426	0.418	0.660	0.553	0.532	0.582	0.596	0.426	0.479	0.500	7.740**	2.941	0.629
MIRACLE	19	0.511	0.362	0.319	0.397	0.702	0.681	0.553	0.645	0.606	0.521	0.436	0.521	18.597***	2.915	0.625
NOVEL	1	0.830	0.872	0.766	0.823	0.660	0.468	0.511	0.546	0.745	0.670	0.638	0.684	27.416***	1.424	1.676
OUTRAGE	28	0.426	0.404	0.255	0.362	0.404	0.574	0.511	0.496	0.415	0.489	0.383	0.429	5.329*	1.166	1.963
OVERTURN	3	0.638	0.702	0.702	0.681	0.574	0.489	0.426	0.496	0.606	0.596	0.564	0.589	10.142**	0.195	1.185
PARENT	13	0.809	0.809	0.809	0.809	0.298	0.319	0.234	0.284	0.553	0.564	0.521	0.546	106.555***	0.253	0.253
PENSION	2	0.404	0.426	0.340	0.390	0.255	0.234	0.255	0.248	0.330	0.330	0.298	0.319	6.562*	0.148	0.312
PLANK	8	0.511	0.574	0.426	0.504	0.532	0.447	0.383	0.454	0.521	0.511	0.404	0.479	0.694	1.571	0.524
PRESSURE	7	0.574	0.404	0.447	0.475	0.239	0.340	0.255	0.298	0.436	0.372	0.351	0.387	9.596**	0.798	1.167
PRIMACY	20	0.596	0.511	0.383	0.496	0.617	0.532	0.574	0.574	0.606	0.521	0.479	0.535	1.720	1.601	0.915
STATION	10	0.596	0.511	0.617	0.574	0.447	0.489	0.404	0.447	0.521	0.500	0.511	0.511	4.606*	0.043	0.896
SPLENDID	4	0.702	0.745	0.702	0.716	0.191	0.234	0.234	0.220	0.447	0.489	0.468	0.468	90.960***	0.223	0.074
STOP TIME	15	0.723	0.723	0.638	0.695	0.106	0.149	0.128	0.128	0.415	0.436	0.383	0.411	138.216***	0.410	0.410
CANDY	12	0.660	0.511	0.553	0.574	0.106	0.149	0.126	0.128	0.383	0.330	0.340	0.351	78.358***	0.415	1.244

TABLE 5.5   DATA FROM MAIN STUDY: HEADLINES TEST (CONTINUED)

LEVEL 3, GRADE 9, ALL CASES

BISERIAL CORRELATIONS WITH AGE(A), VOCABULARY SCORE(V), EVALUATIONS SCORE(E), & HEADLINES SCORE(H)
THE FIRST LINE FOR A WORD GIVES MEAN SCORES FOR THOSE GIVING A CORRECT RESPONSE,
THE SECOND LINE GIVES BISERIALS R'S

WORD	ITEM	FORM	WORDS IN HIGH MGF				FORM	WORDS IN LOW MGF			
			A	V	E	H		A	V	E	H
ANIMATE	11	A	14.32	20.73	17.21	14.05	B	14.00	22.00	16.25	15.00
			-0.353	0.519	0.540	0.703		-0.409	0.384	0.044	0.584
ALOUSE	21	B	14.52	19.30	16.83	11.54	A	14.46	19.18	16.56	12.56
			-0.132	0.314	0.324	0.565		-0.194	0.260	0.484	0.632
BUFFALO	16	A	14.41	20.54	17.02	13.86	B	14.66	19.41	17.16	11.88
			-0.220	0.521	0.511	0.726		0.063	0.253	0.335	0.481
ECLIPSE	9	A	14.48	19.64	16.61	12.85	B	14.44	19.10	16.39	10.95
			-0.140	0.399	0.470	0.670		-0.271	0.292	0.166	0.460
EPIDEMIC	17	A	14.42	19.81	16.42	12.38	B	14.59	19.97	17.03	11.69
			-0.426	0.687	0.551	0.789		-0.019	0.328	0.288	0.431
HOIST	5	B	14.55	19.12	16.57	11.06	A	14.47	20.34	16.64	13.60
			-0.140	0.438	0.355	0.722		-0.123	0.518	0.396	0.734
IMPRESS	6	A	14.41	19.33	16.28	12.08	B	14.68	18.31	16.29	10.99
			-0.335	0.323	0.318	0.475		0.139	0.126	0.144	0.530
MELLOW	14	B	14.59	18.86	16.46	10.68	A	14.45	19.98	16.77	13.34
			-0.016	0.238	0.194	0.395		-0.196	0.497	0.541	0.800
NIBBLE	19	A	14.52	19.96	16.82	13.50	B	14.51	19.03	16.67	10.95
			-0.024	0.341	0.394	0.587		-0.264	0.447	0.453	0.744
NOVEL	1	B	14.59	18.43	16.29	10.39	A	14.44	18.69	15.92	11.71
			-0.040	0.411	0.375	0.956		-0.203	0.062	0.081	0.281
OUTRAGE	18	B	14.53	19.82	17.20	12.02	A	14.37	20.47	16.79	13.26
			-0.111	0.410	0.444	0.648		-0.325	0.554	0.460	0.647
OVERTURN	3	A	14.50	19.13	16.51	12.36	B	14.64	18.09	16.27	10.73
			-0.099	0.272	0.516	0.643		0.078	0.071	0.138	0.473
PARROT	13	A	14.47	19.45	16.18	12.15	B	14.47	20.32	16.88	12.72
			-0.281	0.637	0.444	0.868		-0.167	0.445	0.283	0.696
PENSION	2	A	14.56	19.53	16.49	13.56	B	14.49	20.31	17.00	12.09
			0.053	0.237	0.268	0.592		-0.143	0.414	0.302	0.538
PLANK	8	B	14.61	18.56	16.18	11.20	A	14.53	20.45	16.77	13.59
			0.006	0.200	0.097	0.613		-0.001	0.506	0.415	0.627
PRESSURE	7	B	14.51	19.15	16.40	11.93	A	14.55	19.79	16.90	13.95
			-0.178	0.337	0.191	0.776		0.022	0.250	0.355	0.569
PRIMARY	20	A	14.40	20.00	16.61	13.53	B	14.57	19.15	15.62	10.89
			-0.267	0.423	0.383	0.716		-0.080	0.413	0.353	0.610
SLEIGH	10	A	14.40	19.79	16.21	13.10	B	14.48	19.68	16.62	11.48
			-0.327	0.429	0.238	0.714		-0.224	0.446	0.273	0.620
SPLINTER	4	C	14.59	18.99	16.43	10.95	A	14.48	19.84	16.65	13.81
			-0.062	0.525	0.357	0.909		-0.058	0.225	0.237	0.469
STRUCTURE	15	A	14.43	19.76	16.31	12.60	B	14.61	19.22	16.44	11.89
			-0.334	0.565	0.391	0.766		0.008	0.182	0.107	0.392
TARRY	12	B	14.51	19.79	16.67	11.26	A	14.56	20.78	16.50	14.06
			-0.221	0.612	0.381	0.732		-0.024	0.314	0.163	0.417
MEANS BY FORM		A	14.50	18.49	15.76	10.72	B	14.60	17.82	15.58	9.05
S.D.'S BY FORM			0.51	4.65	2.78	4.89		0.64	4.73	2.65	4.42
N			141					141.00			

TABLE 5.6 INTERCORRELATIONS OF SCORES FOR E*H FORM COMBINATIONS, WITH ANOVAS AMONG FORMS

LEVEL 1, GRADE 3

HEADLINES FORM A

EVALUATION FORM A (N = 69)

	A	V	E	H
AGE	1.000	0.160	-0.070	0.001
VOCAB.	0.160	1.000	0.456	0.520
EVAL.	-0.070	0.456	1.000	0.485
HEADL.	0.001	0.520	0.485	1.000
M	8.681	6.870	13.783	6.507
S	0.577	3.945	3.166	4.748

EVALUATION FORM B (N = 69)

	A	V	E	H
AGE	1.000	-0.012	-0.017	-0.110
VOCAB.	-0.012	1.000	0.464	0.637
EVAL.	-0.017	0.464	1.000	0.646
HEADL.	-0.110	0.637	0.646	1.000
M	8.636	6.797	14.101	5.420
S	0.589	4.141	3.608	4.823

EVALUATION FORM C (N = 69)

	A	V	E	H
AGE	1.000	-0.217	-0.301	-0.089
VOCAB.	-0.217	1.000	0.612	0.635
EVAL.	-0.301	0.612	1.000	0.604
HEADL.	-0.089	0.635	0.604	1.000
M	8.536	6.420	15.449	6.957
S	0.627	4.001	3.654	5.034

ANCVA AMONG EVALUATION FORMS (DF1=2, DF2=204)

	A	V	E	H
F	1.049	0.244	4.387	0.237
P	0.353	0.795	0.013	0.851

HEADLINES FORM B

EVALUATION FORM A (N = 69)

	A	V	E	H
AGE	1.000	-0.258	0.061	0.006
VOCAB.	-0.258	1.000	0.359	0.405
EVAL.	0.061	0.359	1.000	0.520
HEADL.	0.006	0.405	0.520	1.000
M	8.725	6.159	13.304	4.261
S	0.657	3.847	3.560	3.606

EVALUATION FORM B (N = 69)

	A	V	E	H
AGE	1.000	-0.339	-0.277	-0.310
VOCAB.	-0.339	1.000	0.489	0.456
EVAL.	-0.277	0.489	1.000	0.415
HEADL.	-0.310	0.456	0.415	1.000
M	8.609	6.377	14.725	4.203
S	0.664	3.460	3.026	3.839

EVALUATION FORM C (N = 69)

	A	V	E	H
AGE	1.000	-0.294	-0.156	-0.051
VOCAB.	-0.294	1.000	0.434	0.512
EVAL.	-0.156	0.434	1.000	0.483
HEADL.	-0.051	0.512	0.483	1.000
M	8.725	6.551	15.275	4.710
S	0.634	4.077	3.331	4.246

ANCVA AMONG EVALUATION FORMS (DF1=2, DF2=204)

	A	V	E	H
F	0.715	0.181	6.407	0.344
P	0.505	0.855	0.002	0.717

ANOVAS BETWEEN HEADLINE FORMS (DF1=1, DF2=136)

	A	V	E	H
F	0.172	1.129	0.605	4.654
P	0.685	0.289	0.506	0.033

	A	V	E	H
F	0.036	0.412	1.151	6.799
P	0.846	0.529	0.277	0.004

TABLE 5.6 INTERCORRELATIONS OF SCORES FOR EACH FORM COMBINATIONS, WITH ANOVAS AMONG FORMS (CONTINUED)

LEVEL 1, GRADE 6

HEADLINES FORM A

EVALUATION FORM A   N = 40

	A	V	E	H
A	1.000	C.025	-0.246	0.0
V	C.025	1.000	C.627	0.585
E	-0.246	C.627	1.000	0.422
H	0.0	0.585	0.422	1.000
M	11.750	12.650	16.150	12.100
S	0.661	5.242	1.918	6.468

EVALUATION FORM B   N = 40

	A	V	E	H
A	1.000	-0.258	-0.106	-0.067
V	-0.258	1.000	0.261	0.552
E	-0.106	0.261	1.000	0.442
H	-0.067	0.552	0.442	1.000
M	11.600	14.525	18.625	14.725
S	0.663	4.478	1.770	4.722

EVALUATION FORM C   N = 40

	A	V	E	H
A	1.000	-0.143	-0.288	-0.099
V	-0.143	1.000	0.503	0.615
E	-0.288	0.503	1.000	0.499
H	-0.399	0.615	0.499	1.000
M	11.625	13.125	18.100	13.625
S	0.620	5.662	1.609	5.122

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=117)

	A	V	E	H
F	0.598	1.397	21.162	2.250
P	0.557	0.250	0.000	0.108

HEADLINES FORM B

EVALUATION FORM A   N = 40

	A	V	E	H
A	1.000	-0.277	-0.227	-0.247
V	-0.277	1.000	0.591	0.721
E	-C.227	C.591	1.000	0.586
H	-0.247	0.721	0.586	1.000
M	11.725	12.550	15.625	9.100
S	0.741	4.626	2.546	5.585

EVALUATION FORM B   N = 40

	A	V	E	H
A	1.000	-0.285	-0.252	-0.163
V	-0.285	1.000	0.785	0.699
E	-0.252	0.785	1.000	0.829
H	-0.163	0.699	0.829	1.000
M	11.875	11.275	16.750	9.775
S	0.714	4.754	2.395	6.052

EVALUATION FORM C   N = 40

	A	V	E	H
A	1.000	-0.091	-0.319	-0.343
V	-0.091	1.000	0.337	0.586
E	-0.319	0.337	1.000	0.360
H	-0.343	0.586	0.360	1.000
M	11.550	12.825	17.725	9.675
S	0.669	4.577	3.742	5.972

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=117)

	A	V	E	H
F	2.056	1.232	4.928	0.150
P	0.130	0.295	0.009	0.888

ANOVAS BETWEEN HEADLINE FORMS (DF1=1, DF2=78)

	A	V	E	H
F	3.105	9.659	15.454	16.217
P	0.078	0.003	0.000	0.000

	A	V	E	H
F	0.023	C.008	1.058	4.806
P	0.580	1.000	0.308	0.029

TABLE 4.4 INTERCORRELATIONS OF SCORES FOR E*H FORM COMBINATIONS, WITH ANOVAS AMONG FORMS (CONTINUED)

LEVEL 2, GRADE 6

HEADLINES FORM A

EVALUATION FORM A   N = 56

	A	V	E	H
A	1.000	-0.267	-0.319	-0.228
V	-0.267	1.000	0.354	0.576
E	-0.319	0.354	1.000	0.407
H	-0.228	0.576	0.407	1.000
M	11.696	13.696	16.429	8.893
S	0.564	4.989	2.154	5.535

EVALUATION FORM B   N = 56

	A	V	E	H
A	1.000	-0.240	-0.292	-0.354
V	-0.240	1.000	0.573	0.685
E	-0.292	0.573	1.000	0.566
H	-0.354	0.685	0.566	1.000
M	11.732	11.554	14.964	6.893
S	0.694	5.328	2.598	4.988

EVALUATION FORM C   N = 56

	A	V	E	H
A	1.000	-0.403	-0.087	-0.258
V	-0.403	1.000	0.599	0.660
E	-0.087	0.599	1.000	0.534
H	-0.258	0.660	0.534	1.000
M	11.661	11.768	15.732	7.982
S	0.662	5.247	2.496	5.786

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=165)

	A	V	E	H
F	0.172	2.844	5.024	1.859
P	0.864	0.059	0.008	0.157

HEADLINES FORM B

EVALUATION FORM A   N = 56

	A	V	E	H
A	1.000	-0.089	-0.064	-0.064
V	-0.089	1.000	0.350	0.601
E	-0.064	0.350	1.000	0.390
H	-0.064	0.601	0.390	1.000
M	11.607	12.946	15.679	8.839
S	0.646	4.741	3.036	5.006

EVALUATION FORM B   N = 56

	A	V	E	H
A	1.000	-0.216	-0.329	-0.138
V	-0.216	1.000	0.558	0.513
E	-0.329	0.558	1.000	0.536
H	-0.138	0.513	0.536	1.000
M	11.750	12.357	15.804	9.036
S	0.605	4.650	2.489	4.825

EVALUATION FORM C   N = 56

	A	V	E	H
A	1.000	-0.606	-0.402	-0.530
V	-0.606	1.000	0.669	0.751
E	-0.402	0.669	1.000	0.598
H	-0.530	0.751	0.598	1.000
M	11.518	13.125	15.143	9.732
S	0.681	5.176	2.682	4.857

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=165)

	A	V	E	H
F	1.813	0.376	0.899	0.505
P	0.164	0.694	0.588	0.610

ANOVAS BETWEEN HEADLINE FORMS (DF1=1, DF2=110)

	A	V	E	H
F	0.564	0.653	2.677	0.003	0.019	0.710	2.993	5.243	1.241	1.805	1.422	2.951
P	0.951	0.574	0.134	1.000	0.899	0.594	0.083	0.023	0.267	0.171	0.234	0.085

TABLE F-2: INTERCORRELATIONS OF SCORES FOR EACH FORM COMBINATIONS, WITH ANOVAS AMONG FORMS (CONTINUED)

LEVEL 2, GRADE 9

HEADLINES FORM A

EVALUATION FORM A   N = 45

	A	V	E	H
A	1.000	-0.352	-0.285	-0.299
V	-0.352	1.000	0.516	0.537
E	-0.285	0.516	1.000	0.702
H	-0.299	0.537	0.702	1.000
M	14.711	18.156	17.511	11.933
S	0.654	4.733	2.306	4.977

EVALUATION FORM B   N = 45

	A	V	E	H
A	1.000	-0.124	-0.115	-0.200
V	-0.124	1.000	0.623	0.677
E	-0.115	0.623	1.000	0.682
H	-0.200	0.677	0.682	1.000
M	14.600	18.133	17.089	12.622
S	0.574	5.508	2.148	4.999

EVALUATION FORM C   N = 45

	A	V	E	H
A	1.000	-0.255	-0.175	-0.087
V	-0.255	1.000	0.746	0.548
E	-0.175	0.746	1.000	0.575
H	-0.087	0.548	0.575	1.000
M	14.667	17.378	16.778	11.022
S	0.558	4.744	2.812	5.779

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=132)

	A	V	E	H
F	0.386	0.344	1.002	1.022
P	0.687	0.717	0.371	0.364

HEADLINES FORM B

EVALUATION FORM A   N = 45

	A	V	E	H
A	1.000	-0.432	-0.322	-0.477
V	-0.432	1.000	0.497	0.567
E	-0.322	0.497	1.000	0.651
H	-0.477	0.567	0.651	1.000
M	14.800	18.400	17.311	11.644
S	0.653	3.969	2.764	6.179

EVALUATION FORM B   N = 45

	A	V	E	H
A	1.000	-0.078	-0.103	-0.044
V	-0.078	1.000	0.370	0.488
E	-0.103	0.370	1.000	0.439
H	-0.044	0.488	0.439	1.000
M	14.622	18.422	16.889	12.400
S	0.607	4.155	2.183	4.292

EVALUATION FORM C   N = 45

	A	V	E	H
A	1.000	-0.236	-0.098	-0.352
V	-0.236	1.000	0.432	0.700
E	-0.098	0.432	1.000	0.483
H	-0.352	0.700	0.483	1.000
M	14.600	18.267	16.667	11.800
S	0.712	3.991	2.231	5.647

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=132)

	A	V	E	H
F	1.219	0.019	0.814	0.688
P	0.298	1.000	0.551	0.509

ANCOVAS BETWEEN HEADLINE FORMS (DF1=1, DF2= 88)

	A	V	E	H
F	0.411	0.069	0.136	0.552
P	0.530	0.845	0.728	0.534

	A	V	E	H
F	0.033	0.077	0.188	0.050
P	0.952	0.825	0.674	0.897

	A	V	E	H
F	0.243	0.905	0.042	0.408
P	0.630	0.656	0.922	0.532

TABLE 5.6 INTERCORRELATIONS OF SCORES FOR EACH FORM COMBINATIONS, WITH ANOVAS AMONG FORMS (CONTINUED)

LEVEL 3, GRADE 6

HEADLINES FORM A

EVALUATION FORM A, N = 54

	A	V	E	H
A	1.000	-0.357	-0.200	-0.376
V	-0.357	1.000	0.595	0.719
E	-0.200	0.595	1.000	0.484
H	-0.376	0.719	0.484	1.000
M	11.741	12.056	13.926	6.463
S	0.644	5.652	2.874	4.250

EVALUATION FORM B, N = 54

	A	V	E	H
A	1.000	-0.327	-0.161	-0.214
V	-0.327	1.000	0.643	0.811
E	-0.161	0.643	1.000	0.690
H	-0.214	0.811	0.690	1.000
M	11.593	12.667	13.204	6.333
S	0.562	5.484	2.971	4.890

EVALUATION FORM C, N = 54

	A	V	E	H
A	1.000	-0.188	-0.402	-0.400
V	-0.188	1.000	0.396	0.575
E	-0.402	0.396	1.000	0.480
H	-0.400	0.575	0.480	1.000
M	11.803	11.981	14.389	6.370
S	0.660	4.953	2.758	5.034

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=159)

	A	V	E	H
F	2.009	0.260	2.294	0.011
P	0.135	0.782	0.102	1.000

HEADLINES FORM B

EVALUATION FORM A, N = 54

	A	V	E	H
A	1.000	-0.307	-0.251	-0.325
V	-0.307	1.000	0.600	0.733
E	-0.251	0.600	1.000	0.624
H	-0.325	0.732	0.624	1.000
M	11.704	11.611	14.278	6.370
S	0.627	5.400	3.003	4.006

EVALUATION FORM B, N = 54

	A	V	E	H
A	1.000	-0.329	-0.270	-0.229
V	-0.329	1.000	0.657	0.735
E	-0.270	0.657	1.000	0.666
H	-0.229	0.735	0.666	1.000
M	11.611	13.278	12.833	6.407
S	0.650	4.949	3.425	4.161

EVALUATION FORM C, N = 54

	A	V	E	H
A	1.000	-0.038	0.032	-0.168
V	-0.038	1.000	0.550	0.813
E	0.032	0.550	1.000	0.477
H	-0.168	0.813	0.477	1.000
M	11.833	11.704	14.426	5.722
S	0.739	5.769	3.040	4.102

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=159)

	A	V	E	H
F	1.456	1.604	4.104	0.470
P	0.235	0.202	0.018	0.632

ANOVAS BETWEEN HEADLINE FORMS (DF1=1, DF2=106)

	A	V	E	H
F	0.031	0.262	0.354	0.037
P	0.857	0.555	0.561	1.000

	A	V	E	H
F	0.005	0.171	0.013	0.007
P	0.807	0.680	0.907	0.940

TABLE 5.x INTERCORRELATIONS OF SCORES FOR EACH FORM COMBINATIONS, WITH ANOVAS AMONG FORMS (CONTINUED)

LEVEL 3, GRADE 9

HEADLINES FORM A

EVALUATION FORM A N = 47

	A	V	E	H
AGE A	1.000	-0.490	-0.390	-0.398
VOCAB. V	-0.490	1.000	0.563	0.602
EVAL. E	-0.390	0.563	1.000	0.742
HEADL. H	-0.398	0.602	0.742	1.000
M	14.485	17.340	15.532	10.170
S	0.648	4.678	2.880	5.183

EVALUATION FORM B N = 47

	A	V	E	H
A	1.000	-0.286	-0.260	-0.153
V	-0.286	1.000	0.489	0.589
E	-0.260	0.489	1.000	0.460
H	-0.153	0.589	0.460	1.000
M	14.596	19.085	15.638	10.489
S	0.571	3.701	2.273	4.073

EVALUATION FORM C N = 47

	A	V	E	H
A	1.000	-0.430	-0.118	-0.277
V	-0.430	1.000	0.650	0.693
E	-0.118	0.650	1.000	0.569
H	-0.277	0.693	0.569	1.000
M	14.511	19.043	16.106	11.489
S	0.614	4.672	3.082	5.222

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=138)

	A	V	E	H
F	0.393	2.381	0.562	0.924
P	0.682	0.094	0.577	0.598

HEADLINES FORM B

EVALUATION FORM A N = 47

	A	V	E	H
AGE A	1.000	-0.155	-0.145	-0.123
VOCAB. V	-0.155	1.000	0.670	0.569
EVAL. E	-0.145	0.670	1.000	0.526
HEADL. H	-0.123	0.569	0.526	1.000
M	14.681	18.277	16.319	8.936
S	0.550	3.956	2.730	4.432

EVALUATION FORM B N = 47

	A	V	E	H
A	1.000	-0.427	-0.277	-0.230
V	-0.427	1.000	0.506	0.632
E	-0.277	0.506	1.000	0.447
H	-0.230	0.632	0.447	1.000
M	14.638	17.809	15.766	8.830
S	0.727	5.022	2.425	5.071

EVALUATION FORM C N = 47

	A	V	E	H
A	1.000	-0.118	-0.184	-0.055
V	-0.118	1.000	0.314	0.509
E	-0.184	0.314	1.000	0.391
H	-0.055	0.509	0.391	1.000
M	14.489	17.362	15.851	9.383
S	0.614	5.072	2.744	3.659

ANOVA AMONG EVALUATION FORMS (DF1=2, DF2=138)

	A	V	E	H
F	1.158	0.434	0.587	0.203
P	0.317	0.655	0.563	0.832

ANCOVAS BETWEEN HEADLINE FORMS (DF1=1, DF2= 92)

	A	V	E	H
F	2.328	1.074	1.811	1.515
P	0.127	0.303	0.178	0.219

	A	V	E	H
F	0.098	1.926	0.008	2.995
P	0.783	0.165	0.847	0.083

	A	V	E	H
F	0.020	2.733	0.176	5.020
P	0.986	0.058	0.684	0.026

TABLE 5.7 COMPARISONS BETWEEN GRADES, SENTENCE EVALUATION AND HEADLINES TESTS

LEVEL 1

SENT. EVALUATION TEST--PROP'S. CORRECT

WORD	ITEM NO.	GRADE 3 H N 138	GRADE 3 L N 138	GRADE 3 A N 138	GRADE 6 H N 80	GRADE 6 L N 80	GRADE 6 A N 80	Z(DIFF.) H	Z(DIFF.) L	Z(DIFF.) A
AGE	2	0.757	0.391	0.826	0.912	0.800	0.975	2.24**	5.84***	3.27**
BROKE	9	0.355	0.761	0.833	0.997	0.825	0.962	3.19**	1.11	2.84**
CHANCE	7	0.761	0.384	0.659	0.912	0.525	0.813	2.79**	2.02*	2.41*
END	14	0.812	0.855	0.746	0.975	0.938	0.925	3.48***	1.84	3.25**
FILL	3	0.804	0.355	0.804	0.925	0.175	0.950	2.40*	-2.83**	2.97**
FREE	6	0.761	0.572	0.757	0.925	0.862	0.938	3.05**	4.42***	2.79**
GAME	4	0.812	0.145	0.862	1.000	0.250	0.912	4.14***	1.93	1.10
GRAVE	13	0.783	0.210	0.638	0.950	0.400	0.775	3.28**	3.01**	2.11*
LINE	8	0.884	0.804	0.797	0.975	0.900	0.925	2.35*	1.05	2.51*
LIVE	11	0.824	0.746	0.804	0.962	0.787	0.912	2.95**	0.69	2.12*
MILL	17	0.710	0.210	0.826	0.925	0.300	0.912	3.75***	1.49	1.76
NAME	19	0.906	0.848	0.797	1.000	0.938	0.938	2.83**	1.97*	2.79**
PAGE	18	0.862	0.257	0.797	0.962	0.512	0.925	2.37*	3.16**	2.51*
PRIVATE	10	0.775	0.522	0.710	0.912	0.775	0.862	2.57*	3.70***	2.56*
SEASON	12	0.841	0.623	0.507	0.938	0.800	0.637	2.09*	2.72**	1.87
SIGHT	20	0.812	0.406	0.804	0.912	0.575	0.925	2.00*	2.41*	2.40*
SKIRT	15	0.819	0.159	0.681	0.925	0.137	0.938	2.16*	-0.44	4.37***
STRANGER	5	0.797	0.362	0.783	0.950	0.438	0.875	3.07**	1.10	1.70
TAKE	1	0.826	0.232	0.826	0.925	0.200	0.862	2.04*	-0.55	2.95**
TRAIN	16	0.826	0.616	0.696	0.847	0.800	0.837	1.22	2.82**	2.32*
WISH	21	0.812	0.855	0.648	0.867	0.962	0.938	1.47	2.49*	4.28***

HEADLINES TEST--PROP'S. CORRECT

ITEM NO.	GRADE 3 H N 207	GRADE 3 L N 207	GRADE 6 H N 120	GRADE 6 L N 120	Z(DIFF.) H	Z(DIFF.) L
17	0.575	0.097	0.775	0.483	3.65***	8.18***
6	0.498	0.560	0.425	0.792	4.40***	4.21***
1	0.357	0.106	0.758	0.325	6.99***	4.89***
10	0.469	0.343	0.717	0.333	4.06***	8.56***
18	0.256	0.213	0.442	0.450	3.46***	4.52***
21	0.333	0.425	0.750	0.658	7.27***	4.07***
19	0.217	0.048	0.442	0.275	4.27***	5.85***
5	0.454	0.133	0.792	0.583	5.96***	7.20***
11	0.198	0.068	0.475	0.333	5.27***	6.24***
3	0.498	0.251	0.750	0.425	4.47***	3.26**
7	0.111	0.063	0.375	0.308	5.67***	5.95***
9	0.159	0.106	0.367	0.483	4.26***	7.64***
8	0.219	0.111	0.708	0.317	6.81***	4.60***
2	0.164	0.145	0.342	0.625	3.68***	8.96***
4	0.145	0.415	0.392	0.825	5.07***	7.20***
15	0.304	0.507	0.750	0.783	7.78***	4.93***
12	0.309	0.005	0.525	0.058	3.86***	3.02**
20	0.221	0.058	0.433	0.417	6.42***	7.98***
16	0.483	0.329	0.642	0.683	2.77**	6.21***
14	0.179	0.517	0.450	0.792	5.28***	4.93***
13	0.440	0.179	0.725	0.517	4.99***	6.41***

TABLE 5.7   COMPARISONS BETWEEN GRADES, SENTENCE EVALUATION AND HEADLINES TESTS (CONTINUED)

LEVEL 2

SENT. EVALUATION TEST—PROP'S. CORRECT

WORD	ITEM NO.	GRADE 6 H N 112	L N 112	A N 112	GRADE 9 H N 90	L N 90	A N 90	Z(DIFF.) H	L	A
APPEAL	5	0.689	0.723	0.705	0.733	0.867	0.822	0.71	2.48*	1.93
BOTHER	13	0.875	0.473	0.902	0.889	0.422	0.944	0.30	-0.72	1.12
BUBBLE	16	0.857	0.741	0.813	0.911	0.856	0.722	1.18	1.99*	-1.52
BUY	20	0.935	0.768	0.893	0.967	0.878	0.933	0.95	2.01*	1.00
CHANNEL	2	0.777	0.339	0.830	0.911	0.533	0.789	2.57*	2.77**	-0.75
DRUG	1	0.946	0.670	0.920	1.000	0.867	0.956	2.23*	3.25**	1.03
HEDGE	12	0.929	0.393	0.875	0.878	0.400	0.867	-1.23	0.10	-0.18
HUM	6	0.866	0.786	0.830	0.933	0.855	0.867	1.56	1.2*	0.71
INCENSE	1	0.536	0.526	0.607	0.822	0.322	0.644	4.28***	-3.04**	0.54
KNOT	3	0.759	0.813	0.884	0.800	0.778	0.933	0.70	-0.61	1.20
MOTOR	17	0.920	0.161	0.857	0.944	0.322	0.900	0.69	2.70**	0.92
PLANE	9	0.955	0.286	0.857	0.967	0.544	0.822	0.41	3.73***	-0.68
POLL	14	0.536	0.214	0.884	0.889	0.367	0.844	5.41***	2.39*	-0.82
POLICE	19	0.920	0.438	0.929	1.000	0.789	0.933	2.75**	5.05***	0.13
SCARE	7	0.777	0.732	0.875	0.889	0.800	0.911	2.09*	1.13	0.82
SNAKE	11	0.955	0.339	0.902	0.956	0.556	0.922	0.01	3.08**	0.51
SPEAR	15	0.938	0.875	0.625	0.989	0.856	0.778	1.86	-0.40	2.34*
SWAMP	8	0.938	0.464	0.723	0.978	0.689	0.689	1.38	3.20**	-0.53
TWINE	4	0.830	0.554	0.804	0.911	0.522	0.867	1.68	-0.44	1.19
WORRY	10	0.857	0.598	0.866	0.856	0.856	0.833	-0.03	4.02***	-0.65
YELL	21	0.884	0.777	0.938	0.978	0.933	0.933	2.53*	3.07**	-0.12

HEADLINES TEST—PROP'S. CORRECT

ITEM NO.	GRADE 6 H N 168	L N 168	GRADE 9 H N 135	L N 135	Z(DIFF.) H	L
18	0.042	0.440	0.296	0.674	6.09***	4.06***
5	0.494	0.393	0.722	0.570	4.09***	3.08***
21	0.351	0.696	0.311	0.830	-0.74	2.68**
12	0.244	0.768	0.226	0.830	5.05***	1.32
15	0.310	0.107	0.474	0.304	2.93**	4.29***
10	0.619	0.369	0.600	0.504	-0.34	2.35*
4	0.595	0.042	0.681	0.207	1.55	4.49***
19	0.637	0.577	0.630	0.743	-0.13	3.10**
14	0.256	0.065	0.481	0.163	4.07***	2.71**
16	0.506	0.655	0.622	0.830	2.03*	3.42***
9	0.476	0.446	0.704	0.578	3.90***	2.27*
8	0.524	0.113	0.733	0.407	3.73***	5.93***
6	0.095	0.119	0.481	0.474	7.55***	6.86***
11	0.643	0.500	0.726	0.652	1.54	2.65**
1	0.815	0.268	0.778	0.393	-0.81	2.31*
3	0.381	0.631	0.615	0.763	4.05***	2.47*
20	0.196	0.256	0.230	0.267	0.70	0.21
7	0.327	0.268	0.481	0.326	2.73**	1.10
17	0.482	0.542	0.644	0.770	2.83**	4.13***
2	0.202	0.446	0.511	0.548	5.64***	1.76
13	0.685	0.542	0.733	0.785	0.93	4.42***

TABLE 5.7 COMPARISONS BETWEEN GRADES, SENTENCE EVALUATION AND HEADLINES TESTS (CONTINUED)

LEVEL 2

SENT. EVALUATION TEST--PROP'S. CORRECT

WORD	ITEM NO.	GRADE 6			GRADE 9			Z(DIFF.)		
		H N 108	L N 108	A N 108	H N 94	L N 94	A N 94	H	L	A
ANIMATE	4	0.824	0.554	0.630	0.926	0.553	0.798	2.41*	-0.03	2.62**
BLOUSE	15	0.537	0.733	0.759	0.723	0.372	0.862	2.73**	0.58	1.69
BUFFALO	14	0.926	0.278	0.648	0.947	0.426	0.745	0.50	2.20*	1.48
ECLIPSE	2	0.870	0.796	0.776	0.936	0.319	0.745	1.56	0.35	1.07
EPIDEMIC	6	0.796	0.528	0.694	0.936	0.670	0.755	2.87**	2.06*	0.96
MOIST	16	0.602	0.759	0.463	0.787	0.747	0.681	2.84**	0.47	3.12**
IMPRESS	17	0.861	0.556	0.731	0.936	0.298	0.755	1.74	-3.68***	0.39
MELLOW	12	0.602	0.441	0.752	0.915	0.755	0.351	5.11***	3.85***	1.78
NIBBLE	20	0.852	0.731	0.648	0.926	0.777	0.883	.64	0.74	3.88***
NOVEL	7	0.852	0.620	0.676	0.702	0.702	0.883	2.21*	1.22	3.50***
OUTRAGE	19	0.704	0.722	0.358	0.840	0.671	0.447	2.43*	-0.48	0.70
OVERTURN	8	0.833	0.778	0.620	0.883	0.872	0.713	1.00	1.75	1.39
PARROT	11	0.926	0.269	0.741	0.947	0.298	0.840	0.60	0.46	1.73
PENSION	9	0.657	0.593	0.593	0.915	0.670	0.702	4.39***	1.14	1.62
PLANK	1	0.907	0.435	0.880	0.957	0.511	0.330	1.40	1.07	-1.01
PROFESSOR	13	0.769	0.620	0.667	0.947	0.915	0.617	3.55***	4.87***	-0.73
PRIVILEGE	21	0.750	0.546	0.796	0.894	0.926	0.840	2.63**	6.01***	0.81
SLEIGH	3	0.769	0.461	0.667	0.833	0.574	0.755	2.12*	1.32	1.38
SPLINTER	10	0.907	0.478	0.722	0.957	0.585	0.745	1.40	2.26*	0.36
STRUCTURE	5	0.880	0.657	0.537	0.904	0.649	0.649	0.50	-0.13	1.61
TAFFY	5	0.500	0.546	0.646	0.713	0.546	0.734	3.03**	0.71	0.76

HEADLINES TEST--PROP'S. CORRECT

ITEM NO.	GRADE 6		GRADE 9		Z(DIFF.)	
	H N 162	L N 162	H N 141	L N 141	H	L
11	0.173	0.012	0.397	0.028	4.35***	1.00
21	0.327	0.525	0.383	0.631	1.01	1.87
16	0.284	0.080	0.447	0.227	2.95**	3.58***
9	0.420	0.247	0.596	0.418	3.06***	3.18**
17	0.494	0.074	0.745	0.206	4.47***	3.34***
5	0.426	0.241	0.610	0.496	3.20***	4.63***
6	0.401	0.346	0.638	0.482	4.12***	2.41*
14	0.327	0.210	0.416	0.582	1.64	6.64***
19	0.290	0.549	0.397	0.645	1.96*	1.70
1	0.512	0.202	0.823	0.346	5.68***	4.29***
18	0.130	0.228	0.362	0.496	4.73***	4.87***
3	0.586	0.469	0.681	0.496	1.70	0.47
13	0.611	0.136	0.809	0.284	3.75***	3.18***
2	0.080	0.056	0.390	0.248	6.45***	4.75***
8	0.500	0.210	0.504	0.454	0.06	4.52***
7	0.346	0.099	0.475	0.298	2.29*	4.39***
20	0.23	0.235	0.496	0.574	7.09***	6.04***
10	0.414	0.321	0.574	0.447	2.79**	2.25*
4	0.660	0.099	0.716	0.220	1.04	2.90**
15	0.463	0.086	0.695	0.128	4.07***	1.17
12	0.327	0.136	0.574	0.128	4.32***	-0.21

Table 5.8

Distribution of z-values from the Evaluation

and Headlines Test, by Level and Grade

Evaluation Test

	Level 1		Level 2		Level 3		
	Gr. 3	Gr. 6	Gr. 6	Gr. 9	Gr. 6	Gr. 9	Total
+, $p \leq .001$	15	12	13	13	11	13	77
+, $.001 < p \leq .01$					2	2	4
+, $.01 < p \leq .05$	1	4	2	1	2	1	11
+, $p > .05$	3	4	4	6	3	4	24
-, $p > .05$	2	1	2		2	1	8
-, $.01 < p \leq .05$				1	1		2
-, $.001 < p \leq .01$							0
-, $p \leq .001$	—	—	—	—	—	—	0
	21	21	21	21	21	21	126

Headlines Test

	Level 1		Level 2		Level 3		
	Gr. 3	Gr. 6	Gr. 6	Gr. 9	Gr. 6	Gr. 9	Total
+, $p \leq .001$	9	7	6	4	12	8	46
+, $.001 < p \leq .01$	2	1	2	3		4	12
+, $.01 < p \leq .05$	1	1		1	2	2	7
+, $p > .05$	4	3	4	3	3	2	19
-, $p > .05$	1	4	3	3		1	12
-, $.01 < p \leq .05$		1		2	1	1	5
-, $.001 < p \leq .01$			1	1	1	1	4
-, $p \leq .001$	4	4	5	4	2	2	21
	21	21	21	21	21	21	126

Table 5.9

Data Grouped by Whether Semantic Differences Were Associated with

Differences in Grammatical Functions

Level 1

EVALUATION

| | Proportions Correct | | | | | | r_{bis} with Vocabulary | | | |

"Same" meanings in H and L grammatical functions

	Gr. 3			Gr. 6			Gr. 3		Gr. 6	
	H	L	Z	H	L	Z	H	L	H	L
AGE	.797	.391	6.86***	.912	.800	2.03*	.579	.036	.576	.248
END	.812	.855	-0.97	.975	.938	1.16	.578	.516	.652	.077
FILL	.804	.355	7.56***	.925	.175	9.53***	.561	-.134	.405	-.006
LINE	.884	.804	1.83	.975	.900	1.96	.301	.492	.204	.338
NAME	.906	.848	1.47	1.000	.938	2.27*	.312	.320	--	.144
SIGHT	.812	.406	6.91***	.912	.575	4.89***	.382	-.080	.150	.132
TAKE	.826	.232	9.89***	.925	.200	9.24***	.487	-.076	.405	.220
WISH	.812	.855	-0.97	.887	.962	-1.80	.194	.540	.442	.087

"Different" meanings in H and L grammatical functions

	H	L	Z	H	L	Z	H	L	H	L
BROKE	.855	.761	1.99*	.987	.825	3.53***	.457	.249	.588	.194
CHANCE	.761	.384	6.33***	.912	.525	5.45***	.149	-.220	.567	.240
FREE	.761	.572	3.32***	.925	.862	1.28	.525	.216	.422	.335
GAME	.812	.145	11.09***	1.000	.250	9.80***	.395	-.245	--	.374
GRAVE	.783	.210	9.51***	.950	.400	7.43***	.503	-.160	.133	.431
LIVE	.826	.746	1.62	.962	.787	3.35***	.391	.062	.396	.297
MILL	.710	.210	8.33***	.925	.300	8.11***	.516	-.315	.272	.333
PAGE	.862	.297	9.51***	.962	.512	6.47***	.385	.016	.365	.391
PRIVATE	.775	.522	4.41***	.912	.775	2.40*	.096	.329	.551	.335
SEASON	.841	.623	4.08***	.938	.800	2.58*	.421	.162	.474	.395
SKIRT	.819	.159	10.96***	.925	.137	9.98***	.565	-.459	.444	-.091
STRANGER	.797	.362	7.32***	.950	.438	7.03***	.467	-.314	.304	.191
TRAIN	.826	.616	3.89***	.887	.800	1.52	.069	.095	.149	.143

Table 5.9 (contd.)

Level 2

EVALUATION

| | Proportions Correct | | | | | | r_{bis} with Vocabulary | | | |

"Same" meanings in H and L grammatical functions

	Gr. 6			Gr. 9			Gr. 6		Gr. 9	
	H	L	Z	H	L	Z	H	L	H	L
BOTHER	.875	.473	6.41***	.889	.422	6.59***	.288	-.101	.225	-.038
BUBBLE	.857	.741	2.17*	.911	.856	1.16	.520	.058	.527	.454
BUY	.938	.768	3.58***	.967	.878	2.23*	.436	.145	-.074	.236
CHANNEL	.777	.339	6.59***	.911	.533	5.66***	.339	.024	.456	.196
DRUG	.946	.670	5.26***	1.000	.867	3.59***	.315	.396	--	.291
HUM	.866	.786	1.59	.933	.856	1.70	.225	.371	.253	.046
KNOT	.759	.813	-0.98	.800	.778	0.37	.375	.380	.763	.486
POLL	.536	.214	4.97***	.889	.367	7.25***	.034	-.260	.466	-.075
SCARE	.777	.732	0.78	.889	.800	1.65	.632	.170	.642	.254
SNAKE	.955	.339	9.65***	.956	.556	6.24***	.239	-.006	.600	.093
SPEAR	.938	.875	1.60	.989	.856	3.34***	.808	.209	.409	.386
WORRY	.857	.598	4.35***	.856	.356	0.0	.471	.267	.375	.106
YELL	.884	.777	2.14*	.978	.933	1.45	.486	.257	-.146	.546

"Different" meanings in H and L grammatical functions

	H	L	Z	H	L	Z	H	L	H	L
APPEAL*	.688	.723	-0.59	.733	.867	-2.24*	.104	.169	.220	.346
HEDGE	.929	.393	8.47***	.878	.400	6.67***	.196	-.007	.214	.042
INCENSE	.536	.536	0.0	.822	.322	6.78***	.289	-.194	.531	-.273
MOTOR	.920	.161	11.40***	.944	.322	8.66***	.478	-.494	.214	.057
PLANE	.955	.286	10.33***	.967	.544	6.59***	.336	-.136	.148	.131
POLICE	.920	.438	7.73***	1.000	.789	4.61***	.639	-.008	--	.537
SWAMP	.938	.464	7.73***	.978	.689	5.20***	.445	.153	.549	.301
TWINE	.830	.554	4.49***	.911	.522	5.79***	.466	-.171	.339	-.122

*Both "H" and "L" usages were nouns, but with different meanings.

Table 5.9 (contd.)

Level 3

EVALUATION

	Proportions Correct						r_{bis} with Vocabulary			

"Same" meanings in H and L grammatical functions

	Gr. 6			Gr. 9			Gr. 6		Gr. 9	
	H	L	Z	H	L	Z	H	L	H	L
ECLIPSE	.870	.296	8.56***	.936	.319	8.75***	.433	−.309	.665	−.006
EPIDEMIC	.796	.528	4.17***	.936	.670	4.59***	.521	.267	.377	.122
HOIST	.602	.759	−2.48*	.787	.787	0.0	.368	.254	.547	.607
IMPRESS	.861	.556	4.94***	.936	.298	9.00***	.587	−.585	−.102	−.646
MELLOW	.602	.491	1.64	.915	.755	2.95**	.220	.304	.105	.131
NIBBLE	.852	.731	2.18*	.926	.777	2.87**	.412	.275	.312	.237
OUTRAGE	.694	.722	−0.45	.840	.691	2.41*	.189	.053	.493	.439
OVERTURN	.833	.778	1.03	.883	.872	0.22	.029	.281	.636	.141
PARROT	.926	.269	9.85***	.947	.298	9.18***	.367	.192	.430	−.100
PENSION	.657	.593	0.98	.915	.670	4.14***	.376	.244	.270	−.147
PLANK	.907	.435	7.39***	.957	.511	6.93***	.565	.010	.660	−.021
PRESSURE	.769	.620	2.36*	.947	.915	0.86	.661	.071	.458	.478
SLEIGH	.769	.481	4.36***	.883	.574	4.76***	.332	−.060	.169	.102
SPLINTER	.907	.426	7.51***	.957	.585	6.08***	.360	.233	.363	.423
STRUCTURE	.880	.657	3.87***	.904	.649	4.20***	.517	−.065	.380	−.106

"Different" meanings in H and L grammatical functions

	H	L	Z	H	L	Z	H	L	H	L
ANIMATE	.824	.556	4.27***	.936	.553	6.02***	.532	.093	.659	−.044
BLOUSE	.537	.333	3.02**	.723	.372	4.84***	.104	.055	.540	.039
BUFFALO	.926	.278	9.73***	.947	.426	7.70***	.486	.173	.069	.153
NOVEL	.852	.620	3.86***	.947	.702	4.41***	.313	.179	.543	.122
PRIMARY	.750	.546	3.13**	.894	.926	−0.76	.372	.106	.750	.053
TARRY	.500	.546	−0.68	.713	.596	1.69	.144	.299	.211	−.040

Table 5.9 (contd.)

Level 1

HEADLINES

| | Proportions Correct | | | | | | r_{bis} with Vocabulary | | | |

"Same" meanings in H and L grammatical functions

	Gr. 3			Gr. 6			Gr. 3		Gr. 6	
	H	L	Z	H	L	Z	H	L	H	L
AGE	.575	.087	10.55***	.775	.483	4.68***	.486	.558	.403	.620
END	.469	.343	2.60**	.717	.833	-2.16*	.478	.474	.614	.515
FILL	.256	.213	1.04	.442	.450	-0.13	.473	.459	.247	.418
LINE	.198	.068	3.91***	.475	.333	2.24*	.466	.204	.491	.504
NAME	.159	.106	1.59	.367	.483	-1.83	.308	.266	.549	.485
SIGHT	.304	.507	-4.20***	.750	.733	-0.61	.476	.477	.538	.474
TAKE	.483	.329	3.20**	.642	.683	-0.68	.222	.314	.528	.523
WISH	.440	.179	5.74***	.725	.517	3.33***	.448	.299	.428	.625

"Different" meanings in H and L grammatical functions

	Gr. 3			Gr. 6			Gr. 3		Gr. 6	
BROKE	.198	.560	-7.60***	.425	.792	-5.82***	.338	.423	.393	.378
CHANCE	.357	.106	6.06***	.758	.325	6.74***	.316	.263	.387	.628
FREE	.333	.425	-1.92	750	.658	1.56	.474	.486	.402	.550
GAME	.217	.048	5.07***	.442	.275	2.69**	.395	.240	.474	.334
GRAVE	.454	.193	5.67***	.792	.583	3.48***	.615	.423	.556	.467
LIVE	.498	.251	5.18***	.750	.425	5.11***	.259	.379	.508	.380
MILL	.111	.063	1.74	.375	.308	1.09	.246	.243	.595	.422
PAGE	.319	.111	5.14***	.708	.317	6.07***	.470	.339	.658	.467
PRIVATE	.164	.145	0.54	.342	.625	-4.39***	.290	.394	.290	.631
SEASON	.145	.415	-6.13***	.392	.825	-6.88***	.329	.553	.576	.688
SKIRT	.309	.005	8.51***	.525	.058	7.95***	.409	.255	.412	.572
STRANGER	.121	.058	2.24*	.433	.417	0.26	.323	.566	.454	.501
TRAIN	.179	.517	-7.22***	.450	.792	-5.45***	.284	.518	.507	.456

Table 5.9 (contd.)

Level 2

HEADLINES

Proportions Correct r_{bis} with Vocabulary

"Same" meanings in H and L grammatical functions

	Gr. 6			Gr. 9			Gr. 6		Gr. 9	
	H	L	Z	H	L	Z	H	L	H	L
BOTHER	.494	.393	1.87	.726	.570	2.68**	.607	.475	.460	.561
BUBBLE	.351	.696	-6.34***	.311	.830	-8.61***	.301	.604	.237	.398
BUY	.244	.768	-9.60***	.526	.830	-5.34***	.395	.546	.467	.544
CHANNEL	.310	.107	4.57***	.474	.304	2.87**	.545	.168	.167	.462
DRUG	.619	.369	4.58***	.600	.504	.59	.410	.463	.449	.390
HUM	.637	.577	1.12	.630	.748	-2.10*	.317	.634	.389	.435
KNOT	.506	.655	-2.76**	.622	.830	-3.82***	.454	.617	.528	.456
POLL	.095	.119	-0.71	.481	.474	0.12	.510	.453	.601	.598
SCARE	.815	.268	10.07***	.778	.393	6.42***	.568	.307	.393	.149
SNAKE	.381	.631	-4.58***	.615	.763	-2.63**	.599	.532	.622	.306
SPEAR	.196	.256	-1.30	.230	.267	-0.70	.174	.403	.260	.184
WORRY	.202	.446	-4.78***	.511	.548	-0.61	.218	.601	.386	.403
YELL	.685	.542	2.69**	.733	.785	-1.00	.526	.466	.302	.539

"Different" meanings in H and L grammatical functions

	H	L	Z	H	L	Z	H	L	H	L
APPEAL	.042	.440	-8.55***	.296	.674	-6.21***	.439	.614	.476	.570
HEDGE	.595	.042	10.89***	.681	.207	7.84***	.565	.515	.296	.521
INCENSE	.256	.065	4.75***	.481	.163	5.60***	.569	.260	.471	.186
MOTOR	.476	.446	0.55	.704	.578	2.16*	.645	.498	.386	.369
PLANE	.524	.113	8.08***	.733	.407	5.41***	.595	.259	.561	.520
POLICE	.643	.500	2.65**	.726	.652	1.31	.437	.420	.492	.524
SWAMP	.327	.268	1.19	.481	.326	2.60**	.516	.204	.522	.237
TWINE	.482	.542	-1.09	.644	.770	-2.27*	.526	.628	.549	.552

Table 5.9 (contd.)

Level 3

HEADLINES

Proportions Correct r_{bis} with Vocabulary

"Same" meanings in H and L grammatical functions

	Gr. 6			Gr. 9			Gr. 6		Gr. 9	
	H	L	Z	H	L	Z	H	L	H	L
ECLIPSE	.420	.247	3.30***	.596	.418	2.98**	.499	.453	.399	.292
EPIDEMIC	.494	.074	8.38***	.745	.206	9.06**	.605	.257	.687	.328
HOIST	.426	.241	3.54***	.610	.496	1.92	.653	.533	.438	.518
IMPRESS	.401	.346	1.03	.638	.482	2.64**	.460	.172	.323	.126
MELLOW	.327	.210	2.38*	.418	.582	-2.74**	.571	.704	.238	.497
NIBBLE	.290	.549	-4.73***	.397	.645	-4.17***	.382	.592	.341	.447
OUTRAGE	.130	.228	-2.32*	.362	.496	-2.29*	.423	.456	.410	.554
OVERTURN	.586	.469	2.11*	.681	.496	3.15**	.465	.462	.272	.071
PARROT	.611	.136	8.84***	.809	.284	8.85***	.547	.487	.637	.445
PENSION	.080	.056	0.88	.390	.248	2.55*	.501	.632	.237	.414
PLANK	.500	.210	5.46***	.504	.454	0.83	.415	.469	.200	.506
PRESSURE	.346	.099	5.35***	.475	.298	3.06**	.634	.391	.337	.250
SLEIGH	.414	.321	1.73	.574	.447	2.14*	.675	.519	.429	.446
SPLINTER	.660	.099	10.42***	.716	.220	8.35***	.607	.345	.525	.225
STRUCTURE	.463	.086	7.59***	.695	.128	9.68***	.634	.564	.565	.182

"Different" meanings in H and L grammatical functions

	H	L	Z	H	L	Z	H	L	H	L
ANIMATE	.173	.012	4.98***	.397	.028	7.57***	.481	-.014	.519	.384
BLOUSE	.327	.525	-3.90***	.383	.631	-4.17***	.508	.458	.314	.260
BUFFALO	.284	.080	4.75***	.447	.227	3.91***	.559	.537	.521	.253
NOVEL	.512	.302	3.84***	.823	.546	5.00***	.571	.406	.411	.062
PRIMARY	.123	.235	-2.01**	.496	.574	-1.31	.558	.504	.423	.413
TARRY	.327	.136	4.08***	.574	.128	7.86***	.467	.236	.612	.314

Chapter VI

Conclusions, Discussion, and Recommendations

The Incidence of MGF (Multiple Grammatical Function) Words in English

Even without any special investigation such as the present one, it
would be obvious to anyone who gives thought to the matter that there are
large numbers of words in the English language that (in either spoken or
printed forms) can function in more than one grammatical part of speech
without any change of form. In this respect English appears to be
somewhat different from many other well-known languages, such as French,
German, Spanish, or Russian, in which it is usually the case that a word
presented in isolation can be immediately recognized by a native speaker
as belonging to one and only one part of speech or grammatical function.

For the purposes of the present study, it was nevertheless felt
desirable to obtain more precise information on the incidence of MGF words
in English. A 5 percent random sample of the first 10,000 words according
to frequency in the Thorndike (1932) word-list was examined: of these 500
words, about 43 percent were found to be grammatically ambiguous. A simple
extrapolation suggests that about 4300 words out of the most common 10,000
words in English are grammatically ambiguous in the sense that they (i.e.,
their "base" or "dictionary entry" forms) may occur in more than one part
of speech. Closer examination of the 5 percent sample disclosed that
grammatical ambiguity had higher occurrence among the words of higher frequency.
About 72 percent of the 1000 most common words, it may be estimated,
may occur in more than one part of speech.

These data do not take account of the possible multiple meanings
of words. Independently of whether a word is grammatically ambiguous
or unambiguous, it may have a number of different senses. It is well

known that multiple meaning (polysemy) is more likely to occur among the
more frequent words. To some unknown extent, our results may reflect
the fact that high frequency words are more likely to have multiple
meanings. The focus of this study, however, was on multiple grammatical
function, or what may be called <u>polysyntagmy</u>. It was noteworthy that our
studies found many words that could occur in more than one grammatical
function but had essentially only one basic sense.

<u>The psycholinguistic significance of polysyntagmy</u>

These findings have several important implications regarding the
nature of competence in the English language.

First, they imply that competence in English involves not only a
knowledge of the basic meanings of words but also a knowledge of the
possible grammatical functions of those words, and the limits of those
functions. For example, it is a part of the usual competence of a
native speaker of English to know that words such as NAME, END, and
FREE may be used in more than one grammatical function: NAME and END
as nouns and verbs, and FREE as either a verb or an adjective. But the
native speaker must also know that there are constraints on the grammatical
usages of words: he must know that LOUD and SORE, for example, cannot
normally be used as verbs, for example.

Second, these findings imply that in the production or comprehension
of messages, the language user draws on his knowledge of the grammatical
functions of words. In the normal understanding of a sentence, the language
user has to process the words in terms of his knowledge of their possible
grammatical functions. If a newspaper reader, for example, were to
see a headline such as FRENCH SHIP SAILS TONIGHT he could interpret it
either as meaning "The ship owned by the French is going to depart tonight"

er as "The French people are shipping their sails tonight" on the basis
of his knowledge that ship and sails could be construed as either nouns
or verbs, and that French could be taken as either an adjective or a
noun. Of course, he might use other processes to determine which of
these readings is the more likely interpretation in a particular context.
But he could not even arrive at any reading of the sentence without using
his knowledge of the possible grammatical functions of the words. It
would thus seem important, in the study of sentence comprehension,
to assemble data on native speakers' knowledge about the grammatical
usages of words.

We know that in the domain of vocabulary there is considerable
variation among native speakers in the extent of their knowledge. It
is likely, therefore, that the various grammatical usages of individual
words may be regarded as separate and independent phenomena that may
be differentially known by a native speaker. A speaker who knows that
a given word may occur in a certain part of speech will not necessarily
know that it may also occur in another part of speech, or that it
cannot occur in still another part of speech. If this is so, we may
expect speakers to differ in their ability to handle different grammatical
usages in either the comprehension or the production of verbal messages.
Also, we should expect that as children grow in language competence,
they would gradually improve in their knowledge of specific grammatical
usages.

The present study was designed to investigate growth in children's
knowledge of grammatical usages of words.

The role of frequency

In the introductory paragraphs above, we spoke of grammatical ambiguity in terms of whether a word "may" occur in more than one part of speech. The concept of frequency implied in that statement was that of "all-or-none." That is, a word would be regarded as grammatically ambiguous if, according to linguistic convention, that word could be used acceptably in more than one part of speech, even if its use in one of those parts of speech were extremely rare. For example, the word ARE may be regarded as grammatically ambiguous because along with its extremely common use as a form of the verb BE one can also encounter, although very rarely, its use as a noun, denoting a unit of area in the metric system.

Generally, the frequency with which some phenomenon occurs in large samples of language provides some guide as to the likelihood that speakers of the language will be familiar with that phenomenon. An important feature of the earlier phases of this investigation, therefore, was an effort to obtain information on the relative frequencies with which the words in a representative sample of common words were used in different grammatical functions. Obtaining reliable information of this sort was found to be quite difficult, because the usual word-frequency counts do not honor distinctions of either meaning or grammatical usage. The Semantic Count developed by Lorge and Thorndike (1938) was found to be of some use, however, and was one of the bases for assigning provisional "MGF vectors" to a sample of 1220 words that were identified as being more or less common in English. These MGF vectors were intended as estimates of the parts in ten (perdecems) with which a given word would be used in each of several grammatical functions

(generally, <u>noun</u>, <u>verb</u>, or <u>adjective</u>) in a large corpus of speech or writing in English. These MGF vectors are listed in Appendix A.

The collection of normative data on individuals' grammatical perceptions

of MGF words

It was felt desirable, however, to obtain another kind of information on grammatical usages of words, namely, the usages that individuals would make of words most directly and spontaneously when presented with those words in isolation. It may be assumed that when a person is presented with a word in isolation, he will perceive it as being in a certain grammatical part of speech; given enough time, he may perceive it as possibly being in more than one part of speech, but his most immediate response to the word would presumably indicate the usage which is most dominant for him in a hierarchy of habits. A simple way of detecting the person's grammatical perception of a word is to present it to him in isolation and ask him to make up a sentence illustrating the word; the investigator can then, on inspection of the sentence, usually determine the part of speech in which it was used, and inferentially, the part of speech in which it was perceived. By collecting data of this sort from representative samples of respondents it is possible to assemble normative data on the frequency with which given words are perceived in various parts of speech.

Chapter IV of this report describes a study in which such normative data were collected concerning 240 MGF words. School-age children in grades 3, 6, and 9 contributed these data. By the use of sizable samples, the reliability of these data was reasonably well assured, except in the case of words for which only small numbers of students were able to supply illustrative sentences. The extensive normative data thus assembled are presented in tables accompanying Chapter IV.

A pilot experiment, described in Chapter III, provided evidence
that virtually excluded the possibility that these normative data were
in any way biased by "priming" or "set" effects whereby the grammatical
perception or "parsing" of a given word would be influenced by the
response to an immediately preceding word in the list.

In general, the normative data tended to show good correspondence
with the provisional "MGF vectors" described above. The two sets of
data exhibit some discrepancies, however. One possible reason for
discrepancy is that the MGF vector data were estimated mainly from
counts of words in adult reading material, whereas the normative data
represent responses of children in grades 3, 6, and 9 that reflect
their own perceptions and experiences with the words. Also, frequency
of usage would not be expected necessarily to correspond exactly with
grammatical perceptions of words presented in isolation.

The normative data also included information on the tendency of
children to use a word in two different parts of speech when asked to
write two successive sentences using the word in different ways. It
was found that this tendency was highly correlated with what may be
called the "balance" of the MGF vector, i.e., the extent to which
it reflected more or less equally frequent multiple grammatical usages.
Here, the "empirical" MGF vector was used as the data base: when several
grammatical usages were likely to appear with approximately equal
frequencies in the first sentences written by the children in the
sample, there was a greater tendency for them to change grammatical
part of speech in a second sentence than when the grammatical usages
were concentrated in only one part of speech.

These data unfortunately do not indicate to what extent the respondents were aware of the change of grammatical function or deliberately made changes in grammatical function; their changing of part of speech in a second sentence might have occurred solely as a kind of chance, unconscious process. This interpretation is likely, in fact, in view of the finding that few children made more than a very small number (two or three) changes of grammatical function over the whole set of 26 or 27 words with which they were presented.

Children's knowledge and comprehension of unusual grammatical functions of words

The preliminary investigations described above operated to set the stage for the main study that was the goal of the project as a whole: a study of the extent to which children at several grade levels were able to comprehend words used in unusual grammatical functions.

From the normative data on children's perceptions of grammatical functions, 63 words were chosen for further study. These 63 words represented a wide range of difficulty and of types of grammatical ambiguity; their common characteristic, however, was that at least one of the grammatical usages was infrequently found in the normative data, i.e., the word was seldom used in one of the parts of speech when the respondents were asked to use the word in a sentence.

These words were employed in constructing two types of instruments to be used for assessing children's knowledge and comprehension of the respective grammatical usages. One of these instruments, the Sentence evaluation test, presented a word in a sentence in either a "high frequency," a "low frequency," or an "anomalous" usage, the child being asked to

evaluate whether the word was correctly used or not. The rationale
for this instrument was that if a child marked a "high frequency"
or a "low frequency" usage as "correct," but marked an "anomalous"
usage as "incorrect," he was more likely to be able to understand the
word. Actually, because of the way in which the forms of this test
were constructed, any given child was presented with only one of the
three usages--"high," "low," or "anomalous." The relative degrees
to which the "high frequency" and "low frequency" usages were comprehended
by the group were assessed by comparing the responses of different
subgroups, one subgroup having been presented with the "high frequency"
usage and the other having been presented with the "low frequency"
usage. The "anomalous" items were, in effect, "fillers" designed to
give the respondents opportunity to find "incorrect" usages.

The other type of instrument was a so-called Headlines test in
which the word (in either a "high frequency" or a "low frequency"
grammatical usage) was presented in the context of an imaginary "headline"
such as might appear in a newspaper; the child was asked to write a
paraphrase of the headline without using the key word, which was underlined.
Comprehension of the word was assessed by judging the child's success
in writing a paraphrase that showed his understanding of the word.

There were, at each of three levels of difficulty, three forms of
the Sentence Evaluation test and two forms of the Headlines test; in this
way, different random samples of children responded to the different
usages of the words. By comparing the proportions of correct or
acceptable responses to the various usages, it was possible to investigate
the main question for which this study was designed: do school-age children

have more difficulty in comprehending or using words in their less
frequent grammatical functions?

To the question stated in just this way, the data gave a very
clear answer: for about nine out of ten of the words studied, children
do have significantly more difficulty with the less frequent grammatical
functions, i.e., with the functions that they are less likely to use
when asked to make sentences illustrating the words.

It was also clear that there were significant developmental trends:
with increasing age and grade, children tended to have less and less
difficulty with the infrequent grammatical usages. Nevertheless, even
at grade 9, there were many words for which it was the case that the
children had significantly more difficulty with the less frequent grammatical
usages than with the more frequent ones.

These conclusions are based on the results from both of the tests,
which tended to agree with each other. Nevertheless, the results were
clearer and more striking from the Sentence Evaluation test, probably
because this was a test that required only a simple judgment from the
child as to whether the word was used correctly or not, whereas the
response to the Headlines test was much more demanding, in that it
required the child to write a paraphrase of a sentence without using
the word whose comprehension was being tested. The proportions of correct
responses to the Evaluation test were in general much higher than the
corresponding proportions in the Headlines test.

It was necessary, however, to assess the possible role of semantic
factors as explaining either part or all of the differences in proportions
of correct responses. For some of the words it was evident, even in
advance, that semantic differences were correlated with differences in

grammatical function. For example, the meaning of HEDGE as a noun

("a row of bushes") has only a remote, metaphorical connection with its

meaning as a verb in "to hedge one's statements."

The results were classified on the basis of whether the different

grammatical functions actually used in the Sentence Evaluation and Headlines

tests had associated semantic differences. When this was done, it could

be seen that there were three classes of results:

(1) Words for which there appeared to be no essential semantic

differences correlated with differences in grammatical function, and

for which there was little evidence of significant differences in

correctness of response: There were relatively few cases of this sort,

mainly restricted to highly familiar, high frequency items. These

were as follows: BROKE (vb., adj.); END (n., vb.); LINE (n., vb.);

NAME (n., vb.); WISH (n., vb.); HUM (n., vb.); KNOT (n., vb., both

referring to an interlacement of rope, cord, etc.); SCARE (n., vb.);

SPEAR (n., vb.); YELL (n., vb.); and OVERTURN (n., vb.).

(2) Words for which there appeared to be, as before, no essential

semantic differences correlated with differences in grammatical function,

but for which there were rather consistent significant differences in

correctness of response favoring the "high frequency" grammatical function:

Following are the cases of this type; the "low frequency" usage is

underlined and unabbreviated: AGE (n., verb); FILL (vb., noun);

SIGHT (n., verb); TAKE (vb., noun); BOTHER (vb., noun); BUBBLE (n., verb);

CHANNEL (n., verb); DRUG (n., verb); BUY (vb., noun); POLL (n., verb);

WORRY (n., verb); EPIDEMIC (n., adjective); HOIST (n., verb); MELLOW

(adj., verb); NIBBLE (vb., noun); OUTRAGE (n., verb); PENSION (n., verb);

PLANK (n., verb); PRESSURE (n., verb); SLEIGH (n., verb); SPLINTER

(n., verb); STRUCTURE (n., verb). These may be considered cases that

confirm the general conclusion of this study that frequency or familiarity

of grammatical function per se is often a critical factor in comprehension

of language.

(3) Words for which important semantic differences were correlated

with differences in grammatical function, and for which there were

rather consistent differences in correctness of response favoring the

"high frequency" grammatical function: CHANCE (n., verb); FREE (adj., verb);

GAME (n., adjective); GRAVE (n., adjective); LIVE (vb., adjective);

MILL (n., verb); PAGE (n., verb); PRIVATE (adj., noun); SEASON (n., verb);

SKIRT (n., verb); STRANGER (n., adjective); TRAIN (n., verb); HEDGE

(n., verb); INCENSE (n., verb); MOTOR (n., verb); PLANE (n., verb);

POLICE (n., verb); SNAKE (n., verb); SWAMP (n., verb); TWINE (n., verb);

ANIMATE (vb., adjective); BLOUSE (n., verb); BUFFALO (n., verb); ECLIPSE

(n., verb); IMPRESS (vb., noun); NOVEL (n., adjective); PARROT (n., verb);

PRIMARY (adj., noun); TARRY (vb., adjective).

To summarize, there were 11 words in class (1), 22 words in class (2),

and 29 words in class (3). (One word, APPEAL, does not appear in any

of these classes because, through an oversight in the construction of

the Sentence Evaluation test, the grammatical function was the same

[noun--but with two different senses] in the two sentences that were

intended to contrast the "high frequency" [verb] and "low frequency"

[noun] usages.)

As suggested above, class (2) is the critical one for this study.

If only a negligible number of words had appeared in this class, one

would be inclined to reject the hypothesis that grammatical function

per se (as opposed to semantic content) makes a difference in children's

comprehension of MGF words. With the appearance of at least 22 words

in this class, however, there is considerable assurance that grammatical

function can and does make a difference. Inspection of these results

suggests that there are many words whose less frequent grammatical

usages are less likely to be contained in the lexical-grammatical

knowledge of children in the grade range 3 to 9.

The presence of a considerable number of words in class (3)

suggests that differences in semantic content can often be critical

factors along with grammatical factors. This study was not designed

to determine the effect of semantic factors with grammatical usage held

constant, since it was felt that previous research had already shown,

to an adequate degree, that such effects could be important. The only

purpose of including such words in this study was to demonstrate that

grammatical differences could accompany semantic differences and that

the less frequent usages were more likely to pose difficulties in

comprehension.

There were, to be sure, 11 words in class (1)--words seemingly

like those of class (2) in their semantic and grammatical characteristics

but for which "high frequency" and "low frequency" usages were handled

about equally well. However, most of these were words whose overall

frequencies are themselves quite high.

Since this study could include only a relatively small number of

MGF words in the final instruments, and since the 63 words selected

represented a rather arbitrary sample, it is difficult to make generaliza-

tions beyond this small sample of words. Presumably, similar results

would have been obtained if all 240 words studied in the normative data

could have been employed in the main study, but even so, these 240

words are themselves a rather arbitrary sample of all the MGF words
that might have been included. At any rate, no claim can be made that
the frequencies with which the 63 words fell into result-classes (1),
(2), and (3) give any indications as to the "true" probabilities with
which MGF words in general would fall into these classes. In any event,
the results would depend partly on the particular items and sentences
constructed to illustrate the words.

We can only repeat at this point the finding that a significant
number (22 out of 63, or 35%) of the words studied fell into class (2)--
in which difficulty correlated with grammatical function even in the
absence of correlated semantic differences, a finding which leads to
the conclusion that grammatical function per se can be an important
factor in children's lexical knowledge or competence.

From a practical teaching standpoint, this means that the less
frequent grammatical functions of words deserve special attention in
the English language arts curriculum, even when there appear to be
no important semantic differences correlated with differences in grammatical
function. It may also imply that students need to have their attention
drawn to the fact that many words can have different grammatical functions
even without change of essential meaning. Perhaps it would be useful
to design special teaching units to convey this fact and to illustrate
it. The general results of the present study imply that many of the
difficulties that school-age children have in understanding English
prose are connected with the fact that they do not possess lexical-
grammatical knowledge about the less usual grammatical functions of the
many words in English that can appear in more than one grammatical function.

The type of item constructed for the Sentence Evaluation test could
readily be used in practical teaching situations, since such items are
relatively easy to construct. Teachers could draw words from the lists
of MGF words in Appendix A and construct sentences for high frequency,
low frequency, and anomalous usages. Although very little attention has
been paid in this report to the results for the "anomalous" usages,
it may be worth pointing out here that (depending on the grade level
and the difficulty of the words) "anomalous" usages were marked as
"correct" by around 10 to 15 percent of the children; obviously this
represents misinformation or incorrect knowledge on the part of these
children.

Remarks on the development of lexicogrammatical knowledge

The introductory chapter of this report included a brief discussion
of possible processes in the development of the child's lexicogrammatical
knowledge. From the little evidence bearing on this matter in the literature
of early child language acquisition, it may be speculated that the
following stages occur:

(1) At the earliest stages of language acquisition (roughly, at
the "one-word sentence stage"), words are used in terms of their semantic
content, with no reference to their grammatical functions.

(2) As the child begins to put words in grammatical constructions,
he uses words in the grammatical functions appropriate to those
constructions (insofar as they can be determined), but this is mainly
because their semantic content fits those constructions. For example,
words used as nouns are primarily names of persons or concrete objects;
words used as verbs are primarily words for actions; words used as

adjectives are primarily words for certain tangible or readily perceivable qualities. The grammatical functions in which given words are used are severely limited, most words being used in only one grammatical function. Words which are grammatically ambiguous in the adult vocabulary (in the sense defined in the present study) are used almost exclusively in their "high frequency" usages. Nevertheless, the child at this stage is remarkably adept at detecting the grammatical function of a new word from its grammatical and semantic context.

(3) As the child gains more virtuosity in grammatical constructions, he begins to experiment with new grammatical functions of the words he already knows, occasionally using nouns as verbs, or verbs as nouns, for example. This is done on the basis of the semantic content of the words, however; when a noun is used as a verb, for example, it is implied that some action occurs with reference to the denotatum of the word as a noun.

(4) When this "transfer" process results in a usage acceptable in adult speech, this usage tends to become confirmed and strengthened; we may say that the child has acquired lexicogrammatical knowledge with respect to a given word such that the word is recognized to have more than one grammatical function. On the other hand, when the transfer process results in unacceptable usages, those usages tend to weaken and gradually drop out of the child's repertoire. In such cases the grammatical information the child acquires about a word limits its use to particular grammatical functions.

(5) In later language development (up to grade 3, let us say), the child learns the grammatical information associated with the more

frequent words; on the basis of frequency of exposure, he learns the "high frequency" grammatical usages much more than the "low frequency" ones. Most words are for him "grammatically unambiguous," i.e., they belong to only one part of speech or form-cla s. He has, as it were, learned not to invent grammatical usages that he has not heard in the speech of others. The words that are for him grammatically ambiguous are those in which two or more grammatical functions occur with high frequency in adult or peer language. These words may be fairly numerous, but they are still a small part of the child's total vocabulary at this stage.

The present study was concerned with the development of lexi-cogrammatical knowledge from grade 3 to grade 9 (corresponding roughly to ages of 8 to 14). While it was concerned mainly with the acquisition of "unusual" or "low frequency" grammatical usages, the normative data of Chapter IV clearly support the idea advanced in the previous paragraph that even by grade 3 the average child knows and uses a substantial number of words in two or more grammatical functions, but that these are in nearly every case words in which the two or more functions are of relatively high frequency in the adult vocabulary. On the other hand, the data clearly show that grade 3 children are far from adult (or even grade 9) standards in their knowledge of "low frequency" grammatical usages. From grade 3 to grade 9 there are developmental trends whereby children grow in their knowledge of low-frequency grammatical usages, but this growth is quite gradual. The average child at grade 9 still has much to learn before approaching educated-adult standards.

There is little or no evidence in our data of any sudden upturn the child's ability to handle multiple grammatical usages. That is,

it seems not to be the case that children acquire, at some point, a

greater facility in handling MGF words in general. On the contrary,

the data suggest that the acquisition of lexicogrammatical knowledge

is a process whereby the child must learn specific grammatical usages

of words item by item. Since there is so much to learn--all the multiple

grammatical functions of literally thousands of words--the process must

necessarily appear gradual when viewed as a whole. We draw this conclusion

from the fact that the increments in percentages of correct responses

from one grade level to another (as shown in Table 5.7) are generally

quite moderate.

The present data are limited, however, by the fact that they

are of a cross-sectional nature and pertain to groups, not individuals.

If there are indeed "sudden" upturns in the ability of individual children

to deal with multiple grammatical functions in general, they would be

masked by the pooling of data from large numbers of children.

A priori it seems unlikely that individual children would exhibit

rapid and generalized development of an ability to handle multiple

grammatical functions, simply because the adult norms regarding MGF

words are extremely varied and subtle. It is difficult to construct

linguistic rules governing what grammatical functions are acceptable

for given words. As with many other aspects of vocabulary knowledge,

lexicogrammatical knowledge must be acquired bit by bit and with

reference to specific items.

The main implication of this study is that lexicogrammatical

knowledge--the knowledge of the acceptable grammatical functions of

specific words--is a large component in language competence and that it

is acquired slowly and, as it were, painfully. Children's deficiencies
in lexicogrammatical knowledge undoubtedly account for a substantial
part of their difficulties in understanding language. This is a fact
that has apparently received grossly insufficient attention in the
English language curriculum.

It may be pointed out, also, that standard word counts that do
not recognize distinctions of meaning or grammatical function are
practically useless in identifying low frequency meanings or grammatical
functions that need to be taught if school-age children are to be
brought to acceptable levels of the lexicogrammatical knowledge they
need for using language effectively.

REFERENCES

Berwick, M. M. The construction and evaluation of multi-meaning vocabulary tests for grades 4-8. Unpublished Ed.D. Thesis, Boston University, 1952.

Brown, R. Linguistic determinism and the part of speech. Journal of Abnormal and Social Psychology, 1957, 55, 1-5.

Carlson, P., & Anisfeld, M. Some observations on the linguistic competence of a two-year-old child. Child Development, 1969, 40, 569-575.

Cramer, P. Word association. New York: Academic Press, 1968.

Cramer, P. A study of homographs. In L. Postman and G. Keppel (Eds.), Norms of word association. New York and London: Academic Press, 1970. Pp. 361-382.

Dale, E. Dale list of 3,000 familiar words. Educational Research Bulletin, 1948, 27, 45-54.

Dale, E., & Eichholz, G. Children's knowledge of words. Columbus, Ohio: Bureau of Educational Research and Service, The Ohio State University [undated].

Ervin, S. M. Correlates of associative frequency. Journal of Verbal Learning and Verbal Behavior, 1963, 1, 422-431.

Faibish. G. M. Schizophrenic responses to words of multiple meaning. Journal of Personality, 1961, 29, 414-427.

Galbraith, G. G., & Taschman, C. S. Homophone units: A normative and methodological investigation of the strength of component elements. Journal of Verbal Learning and Verbal Behavior, 1969, 8, 737-744.

Hall, J. W., & Crown, I. Associative encoding of words in sentences. Journal of Verbal Learning and Verbal Behavior, 1970, 9, 303-307.

Howards, M. How easy are "easy" words? Journal of Experimental Education, 1964. 32, 377-382.

Hurlburt, D. The relative value of recall and recognition techniques for measuring precise knowledge of word meaning--nouns, verbs, and adjectives. Journal of Educational Research, 1954, 47, 561-576.

Jenkinson, M. D. Selected processes and difficulties of reading comprehension. Unpublished doctoral dissertation, University of Chicago, 1957.

Katz, J. J., & Postal, P. M. An integrated theory of linguistic descriptions. Cambridge, Mass.: The M.I.T. Press, 1964.

Kelly, E. F. A dictionary-based approach to lexical disambiguation. Unpublished doctoral dissertation, Harvard University, 1970.

Kučera, H., & Francis, W. N. Computational analysis of present-day American English. Providence, R. I.: Brown University Press, 1967.

Lorge, I., & Thorndike, E. L. A semantic count of English words. New York: The Institute of Educational Research, Teachers College, Columbia University, 1938 (mimeo.).

Lovell, G. D. Interrelations of vocabulary skills: Commonest vs. multiple meanings. Journal of Educational Psychology, 1941, 32, 67-72.

Petty, W. T., Herold, C. P., & Stoll, E. The state of knowledge about the teaching of vocabulary. Champaign, Ill.: National Council of Teachers of English, 1968.

Rosenzweig, M. R., & McNeill, D. Uses of the semantic count in experimental studies of verbal behavior. American Journal of Psychology, 1962, 75, 492-495.

Rowland, E. H. The psychological experiences connected with the different parts of speech. Psychological Monographs, 1907, 8(1, Whole No. 32).

Russell, D. H. The dimensions of children's meaning vocabularies in grades four through twelve. Berkeley and Los Angeles: University of California Press, 1954. (U. Calif. Pub. in Educ., 11, No. 5, 315-414.)

Russell, D. H., & Saadeh, I. Q. Qualitative levels in children's vocabularies. Journal of Educational Psychology, 1962, 53, 170-174.

Shapiro, S. I., & Palermo, D. S. The influence of part of speech on paired-associate learning. Psychonomic Science, 1967, 8, 445-446.

Stone, P. J., Dunphy, D. C., Smith, M. S., & Ogilvie, D. M. The general inquirer: a computer approach to content analysis. Cambridge, Mass.: The M.I.T. Press, 1966.

Taylor, I. Content and structure in sentence production. Journal of Verbal Learning and Verbal Behavior, 1969, 8, 170-175.

Thevaos, D. G. The influence of semantic variation on word difficulty, with consequent effects on vocabulary estimates and frequency-difficulty correlations. Unpublished Ed.D. Thesis, Teachers College, Columbia University, 1951.

Thorndike, E. L. A teacher's word book of the twenty thousand words found most frequently and widely in general reading for children and young people. New York: Bureau of Publications, Teachers College, Columbia University, 1932.

Thorndike, E. L., & Lorge, I. The teacher's word book of 30,000 words. New York: Bureau of Publications, Teachers College, Columbia University, 1944.

Underwood, B. J., & Schulz, R. W. Meaningfulness and verbal learning. Chicago: Lippincott, 1960.

West, M. A general service list of English words, with semantic frequencies and a supplementary word-list for the writing of popular science and technology. New York: Longmans, Green and Co., 1953.

Whitaker, H. A. Unsolicited nominalizations by aphasics: the plausibility of
    the lexicalist model. Washington, D.C.: ERIC Document Reproduction
    Service, 1970. (Document No. ED 039514)

Wilks, S. S. Elementary statistical analysis. Princeton, New Jersey:
    Princeton University Press, 1949.

Wynne, R. D., Gerjuoy, H., & Schiffman, H. Association test antonym-response
    set. Journal of Verbal Learning and Verbal Behavior 1965, 4, 354-359.

APPENDIX A

A List of Grammatically Unambiguous (UGF) and Ambiguous (MGF) Words

Given first is the complete list of 1230 words that were involved
in this study, in alphabetical order. Each word was assigned a number;
the order of these numbers does not, however, correspond exactly to
the alphabetical order because of certain cross-references that were
controlled by the word numbers. Following each word is an indication
of the sample (T, for Thorndike; H, for Harvard) from which each word
was drawn. A few words, marked "<TH" were not in the original samples
but were derived from those words; e.g., BUILDING was derived from
BUILD but separately listed. Next are given the Dale ratings (D), the
Thorndike Rank-Frequency Index (TH), the full MGF vector, the grammatical
type, the Semantic Code (SMCO), and an indication of which chapters in
this report contain further data concerning the word (3, 4, and/or 5).
See Chapter II for further details.

The complete alphabetical list is followed by lists of

> 330 Grammatically Unambiguous Nouns,

> 147 Grammatically Unambiguous Verbs,

> 122 Grammatically Unambiguous Adjectives,

> 468 Noun-Verb Words,

> 64 Noun-Adjective Words,

> 23 Verb-Adjective Words,

> 52 Noun-Verb-Adjective Words.

COMPLETE ALPHABETICAL LIST

PAGE 1

WORD #	WORD	SMPL	O TH	MGF VECTOR N V A DT	GF TYPE CO	SM CO	DATA IN CH.
1	ABILITY	H			N		
2	ABLE	T			A		
3	ABOLISH	T			V,A		
4	ABSOLUTE	T					
5	ABSURD	T			N,A		3
6	ACADEMIC	H					
7	ACCEPT	T			V		
8	ACCOMPLICE	T			N		
9	ACCOMPLISH	T			V,NVA*		
10	ACCORDING	H			N,V		
11	ACCOUNT	T			V		
12	ACCUMULATE	T			N,V		
13	ACHIEVE	T			N,V		4
14	ACKNOWLEDGE	T			V		
15	ACT	H			N		
16	ACTION	H			N,A		
17	ACTIVE	H			A		
18	ACTIVITY	H			N,V		
19	ACTUAL	T			A		
20	ADDITION	T			N,V		
21	ADDRESS	T			N		
22	ADEQUATE	H			A		
23	ADJUST	T			V		
24	ADMINISTRATION	T			V		
25	ADORE	T			N,V		
26	ADVANCE	T			Z		
27	ADVANTAGE	T			N,V		
28	ADVERTISEMENT	T			Z		
29	ADVICE	T			Z		
30	AFFAIR	T			Z		
31	AFFECT	T			N,V		4
32	AFFINITY	T			A		
33	AFFORD	H			Z		
34	AFRAID	H			A		
35	AFTERNOON	T,H			N		3
36	AGE	H			N,V		4,5
37	AGED	H			V,A		
38	AGENCY	T			Z		
39	AGGRAVATE	T			V		
40	AGGRESSIVE	T			Z		
41	AGREE	T			A		
42	AGREE	T,H			N		
43	AGREEMENT	H			N,V		
44	AGRICULTURAL	T			N,V		
45	AID	H			V		
46	AIM	T			Z		
47	AIR	T			NVA		
48	ALBUM	T			A		
49	ALERT	T			V		
50	ALIVE	T			A		
51	ALLOY	H			V		

WORD #	WORD	SMPL	O TH	MGF VECTOR N V A DT	GR. TYPE CO	SM CO	DATA IN CH.
52	ALONE	H			A		
53	ALTERATION	T			Z		
54	AMATEUR	H			Z		
55	AMONG	T			DT		
56	AMOUNT	H			N,V		
57	ANCHOR	T			N,V		
58	ANGER	T			V,A		
59	ANGRY	H			V,A		3,4,5
60	ANIMATE	T			V,A		
61	ANSWER	H			N,V		
62	ANTICIPATE	T			V		
63	ANXIETY	H			Z		
64	ANXIOUS	T			A		
65	APARTMENT	H			N		
66	APPARENT	H			A		
67	APPEAL	T			N,V		4,5
68	APPEAR	T			V		
69	APPETITE	T			N		
70	APPLAUD	T			V,A		
71	APPLY	H			V		
72	APPROACH	T			N,V		
73	AREA	H			N		
74	ARGUE	T			V		
75	ARGUMENT	H			N		3
76	ARISE	T			V		
77	ARM	H			N,V		
78	ARMY	T			N		
79	AROMATIC	H			V,A		
80	ARRANGE	H			V		
81	ARREST	T			N,V		
82	ARRIVE	H			V		4
83	ARROW	T			N,V		
84	ASHORE	H			Z		
85	ASK	T			V		
86	ASKANCE	H			DT		
87	ASPECT	H			N		
88	ASSIGNMENT	T			Z		
89	ASSISTANCE	H			Z		
90	ASSOCIATE	T			N,V		4
91	ASSOCIATION	T			Z		
92	ASSUME	H			V		
93	ATTACK	T			N,V		
94	ATTEMPT	H			N,V		
95	ATTEND	H			V		
96	ATTENTION	T			N,V		
97	ATTIRE	H			Z		4
98	ATTITUDE	H			Z		
99	AUNT	T			N		
100	AUTHORITY	H			V,A		
101	AUTO	T					4

COMPLETE ALPHABETICAL LIST

WORD #	WORD	SMPL	O TH	MGF VECTOR N V A OT	GP. TYPE	SM CO	DATA IN CHS
102	AVAILABLE	T,H	4 6	0 2 1 0	A	0	—
103	AVERAGE	H	3 3A	3 16 0 0	N,V,A	1	—
104	AVERSE	H	2 7	0 1 0 0	N,V,A	0	—
105	AVOID	H	3 2R	3 0 1 0	V	0	—
106	AWARE	H	1 53	1 0 10 0	A	0	—
107	AWFUL	H	1 7	0 0 1 0	A	1	—
108	BABY	T,H	1 1R	8 7 1 0	N,V,A	3	—
109	BACK	H	4 1A	7 3 10 0	N,V,A	2	4
110	BAD	H	1 7	1 0 6 0	N,A	1	—
111	BADGER	T,H	4 7	0 1 0 0	N,V	2	3,4
112	BALANCE	H	2 7R	5 6 0 0	N,V	3	4
113	BAND	H	1 1R	9 1 0 0	N,V	3	—
114	BANK	H	1 1A	7 1 0 0	N,V	0	—
115	BANKER	H	1 5R	1 0 0 0	N	0	—
116	BAR	H	2 7A	7 3 0 0	N,V	0	—
117	BASEBALL	H	3 1A	10 0 0 0	N	0	—
118	BASIC	H	1 11	0 10 0 0	A	1	—
119	BASIS	H	1 49	10 0 0 0	N	0	—
120	BASK	H	1 10	0 2 0 0	V	0	—
121	BE	H	1 1A	0 10 0 0	V	1	—
122	BEACH	H	1 1R	9 0 0 0	N,V	0	—
123	BEAR	<TH	7 8	4 6 1 0	N,V	4	—
126	BEASTLY	H	1 18	0 0 1 0	N,V	0	—
127	BEAT	H	5 1A	1 3 0 0	N,V	3	—
128	BEAUTIFUL	<TH	2 1A	0 0 10 0	A	0	—
129	BEGIN	H	4 1A	10 20 0 0	V	1	—
130	BEHALF	H	1 1R	10 0 0 0	N	0	—
131	BELIEVE	H	1 1A	10 10 0 0	V	0	—
132	BELONG	H	1 1R	0 10 0 0	V	0	—
133	BELOVED	H	3 3R	7 3 0 0	N,V,A	1	—
134	BENEFIT	H	1 1A	0 0 0 0	N,V	4	4
135	BEREAVE	<TH	1 1A	0 1 0 0	V,A	0	—
136	BESIDE	H	1 1R	0 0 0 0	A	0	—
137	BEST	T	1 1A	9 0 1 0	N,V,A	0	—
157	BETTER	H	2 1A	1 3 6 0	N,V,A	3	—
160	BIAS	H	1 1R	1 1 0 0	N,V	1	—
160	BIDE	H	1 1A	0 5 0 0	V	0	—
141	BIG	H	1 28	10 7 10 0	A	0	—
142	BILL	H	2 5B	4 4 0 0	N,V	4	—
143	BIRD	H	1 1R	9 1 7 0	N,V	1	—
144	BIT	H	2 2A	7 0 1 0	N,V,A	3	—
145	BITE	H	1 1A	9 5 0 0	N,V	0	—
146	BLINDNESS	<TH	1 1R	0 0 1 0	N	0	—
147	BLOCK	H	2 18	9 3 0 0	N,V	0	—
148	BLOCK	H	1 1R	6 1 0 0	N,V	0	—
149	BLOOD	H	2 2A	9 0 1 0	N,V	0	2,4
150	BLOSSOM	<TH	1 1R	9 3 0 0	N,V	2	4,5
151	BLOUSE	H	1 1A	9 0 1 0	N,V	0	—
152	BLOW	H	3 1R	7 3 0 0	N,V	2	—
153	BOARD	H	1 1A	8 8 0 0	N,V	1	—
154	BODY	H	1 1A	9 -1 0 0	N,V	1	—

WORD #	WORD	SMPL	O TH	MGF VECTOR N V A OT	GR. TYPE	SM CO	DATA IN CHS
155	BOILER	H	1 6	10 0 0 0	N	0	—
156	BONE	H	1 1R	9 -1 0 0	N,V	1	—
157	BONNY	H	1 7	0 0 0 0	N,V	2	—
158	BOOK	H	2 2A	7 2 0 0	N,V	3	—
159	BOOTY	H	1 7	10 0 0 0	N,V	1	—
124	BORE	H	4 6A	7 1 1 0	N,V	2	4,5
125	BORING	H	2 2R	1 0 0 0	V,A	1	—
162	BOTHER	H	1 4A	1 0 0 0	V,A	1	4
163	BOUNTIFUL	H	1 16	0 0 10 0	A	1	—
164	BOY	H	1 1A	10 0 0 0	N	1	4,5
165	BRACE	H	3 4B	7 0 0 0	N,V	2	—
166	BREAK	H	1 1R	8 0 0 0	N,V	3	4
168	BRIDGE	H	1 1A	1 0 0 0	N,V	1	—
169	BRING	H	1 1A	0 10 0 0	V	0	—
170	BRISK	H	1 5A	0 0 10 0	A	0	4,5
171	BROCADE	T,H	1 7	9 0 0 0	N,V	0	4,5
167	BROKE	H	1 23	0 0 0 0	V,A	1	—
173	BROTHER	H	1 10	10 0 0 0	N	0	3
174	BROW	H	1 7A	7 0 0 0	N	0	4,5
175	BUBBLE	T,H	3 6	7 3 0 0	N,V	2	—
176	BUFFALO	H	1 1A	9 -1 0 0	N,V	3	—
177	BUILD	H	7 1R	1 9 0 0	V,A	1	—
176	BUILDING	H	8 18	10 0 0 0	N	0	3
180	BURNER	<TH	2 6A	7 0 0 0	N	0	4,5
181	BUSTLE	H	1 7	0 7 0 0	N,V	2	—
182	BUY	H	3 3A	1 10 0 0	V	3	—
183	CAMEL	H	1 4B	10 0 0 0	N	0	4
184	CAMP	H	1 2A	7 2 -1 0	N,V,A	4	—
185	CAN	T,H	1 1A	7 1 0 0	N,V	1	—
186	CAPRICIOUS	H	1 16	0 0 10 0	A	0	—
187	CAR	H	1 19	10 0 0 0	N	1	—
188	CARCASS	H	8 8A	10 0 0 0	N	0	—
189	CARD	H	2 2A	7 5 0 0	N,V	2	—
190	CARDINAL	T,H	3 2R	4 0 10 0	N,A	3	3,4
191	CARE	H	1 7	10 9 0 0	N,V	0	—
192	CAREER	H	1 4R	10 -1 0 0	N,V	1	—
193	CARRIER	H	1 5A	10 7 3 0	N,V	0	—
194	CARRY	H	1 1A	0 10 0 0	V	0	—
195	CAST	H	2 2A	7 9 1 0	N,V	2	—
196	CAT	H	1 1R	9 0 0 0	N,V	0	—
197	CATCH	H	2 1A	0 10 0 0	N,V	0	—
198	CATTLE	H	1 2A	10 0 0 0	N	0	—
199	CAUSE	H	1 1R	9 9 0 0	N,V	1	—
200	CAVE	H	1 7	7 0 0 0	N,V	0	—
201	CAVITY	T,H	1 3A	7 0 0 0	N	0	—
202	CELL	H	1 1R	9 -1 0 0	N,V	1	—
203	CENTER	H	1 1B	7 3 0 0	N,V	1	—
204	CERTIFY	T,H	1 10	0 10 0 0	V	0	—
205	CHANCE	H	1 1R	9 9 0 0	NVA	2	4,5
206	CHANGE	H	1 1A	5 5 0 0	N,V,A	3	—

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COMPLETE ALPHABETICAL LIST

WORD #	WORD
258	CONVENTION
259	CONVINCE
260	COOK
261	COPY
262	CORNER
263	COSTUME
264	COUNSELLOR
265	COUNTRY
266	COUPLE
267	COURAGE
268	COURAGEOUS
269	COURT
270	COUSIN
271	COW
272	CRAFTY
273	CREATE
274	CROUCH
275	CROWD
276	CRY
277	CURDLE
278	CURE
279	CUT
280	CUTLERY
281	DAGGER
282	DAUGHTER
283	DAWN
284	DAY
285	DAZZLE
286	DEAD
287	DEADLOCK
288	DEAL
289	DEATH
290	DECIDE
291	DECISION
292	DECK
293	DEEP
294	DEFENSE
295	DELIVERY
296	DELUSION
297	DEMOCRAT
298	DEMOLISH
299	DEPRESSION
300	DESCRIPTION
301	DESERT
302	DESIGN
303	DESIRE
304	DESPERATE
305	DESTROY
306	DEVELOP
307	DEVELOPMENT

WORD #	WORD
207	CHANNEL
208	CHAPTER
209	CHARACTER
210	CHART
211	CHECK
212	CHECKED
214	CHILD
215	CHILLY
216	CHISEL
217	CHOCOLATE
218	CHOOSE
219	CHURCH
220	CIRCULATE
221	CITIZEN
222	CITY
223	CIVIC
224	CLAY
225	CLEAR
226	CLENCH
227	CLIMB
228	CLOSE
229	CLOTHE (S)
230	CLOWN
231	CLUB
232	COINCIDENCE
233	COLLEGE
234	COLOR
235	COMMAND
236	COMMANDER
237	COMMENT
238	COMPETITION
239	COMPLAINT
240	COMPLEXITY
241	CONCERN
242	CONDEMN
243	CONDITION
244	CONFIDANT
245	CONFRONT
246	CONFUSE
247	CONGRESS
248	CONNECTION
249	CONSIST
250	CONSIDER
251	CONSONANT
252	CONSTITUTE
253	CONTACT
254	CONTINUE
255	CONTRIBUTION
256	CONTROL
257	CONVERSATION

COMPLETE ALPHABETICAL LIST

WORD #	WORD
308	DEVOTE
309	DIAL
310	DIE
311	DIFFICULT
312	DIFFICULTY
313	DIGEST
314	DINGY
315	DIP
316	DIRECT
317	DIRECTION
318	DISCIPLINE
319	DISCUSS
320	DISCUSSION
321	DISEASE
322	DISK
323	DISTRIBUTE
324	DISUSE
325	DIVERSION
326	DIVIDE
327	DIVORCE
328	DIZZY
329	DOCK
330	DOCTOR
331	DOG
332	DOLLAR
333	DOUBLE
334	DOUBT
335	DOWNFALL
336	DREAM
337	DRINK
338	DRIVE
339	DRUG
340	DRUNK
341	DUE
342	DURABLE
343	DUSTER
344	DUTY
345	EARTH
346	ECLIPSE
347	EDUCATE
348	EDUCATION
349	EDUCATIONAL
350	EFFECT
351	EFFORT
352	ELDER
353	EMBROIDER
354	EMIT
355	EMPLOYEE
356	EMPLOYMENT
357	ENCLOSE

WORD #	WORD
360	END
361	ENERGY
362	ENJOY
363	ENLIVEN
364	ENRAGE
365	ENTER
366	ENTERTAINMENT
367	ENTIRE
368	EPIDEMIC
369	EQUAL
370	EQUIVALENT
371	ESCAPE
372	ESTIMATE
373	ESTRANGE
374	EVENING
375	EVENT
376	EVERY
377	EVERYDAY
378	EXAMPLE
379	EXCITE
380	EXEMPT
381	EXIST
382	EXPEDIENT
383	EXPLAIN
384	EXPRESS
385	EXTRACT
386	EXTREME
387	EYE
388	FACE
389	FACILITATE
390	FACT
391	FACTOR
392	FAILURE
393	FAITH
394	FALL
395	FAMILY
396	FAMISHED
397	FAVOR
398	FATHER
399	FEDERAL
400	FEEL
401	FELT
402	FEVER
403	FIELD
404	FIGHT
405	FILL
406	FINANCIAL
407	FIND
408	FINE
410	FINISH

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COMPLETE ALPHABETICAL LIST

WORD #	WORD
411	FIRE
412	FIRM
413	FISH
414	FISHERMAN
415	FIST
416	FIX
417	FLASK
418	FLAT
419	FLIRT
420	FLOOR
421	FLOWER
422	FLUENT
423	FOIL
424	FOLLY
425	FOOD
426	FOOT
427	FORCE
428	FORECAST
429	FOREIGN
430	FORM
431	FORMER
432	FORT
433	FOUND
434	FRACTURE
435	FRAGILE
436	FRAY
437	FREE
438	FREEDOM
439	FRIENDSHIP
440	FRONT
441	FULLY
442	FUNCTION
443	GAIN
444	GALLEY
445	GAME
446	GARDEN
447	GENERAL
448	GENERATION
449	GENEROSITY
450	GEOGRAPHICAL
451	GEOLOGY
452	GIANT
453	GIRDLE
454	GIRL
455	GLAD
456	GLANCE
457	GLARE
458	GOAL
459	GOAT
460	GOOD (S)

WORD #	WORD
463	SPAR
464	GRADE
465	GRADUATE
466	GRANDCHILD
467	GRATIFY
468	GRAVE
469	GREEN
470	GRIN
471	GRIND
472	GROUND
474	GROUP
475	GROW
476	GROWL
477	GUESS
478	GUILD
479	GUN
480	HALLOW
481	HAND
482	HANDLE
483	HAPPEN
484	HAPPY
485	HARMONIOUS
486	HATE
487	HAZE
488	HEAD
489	HEADACHE
490	HEAP
491	HEDGE
492	HEDGEHOG
493	HEIGHTEN
494	HELP
495	HERSELF
496	HIDE
497	HILLSIDE
498	HILT
499	HIRE
500	HISTORY
501	HIT
502	HOIST
503	HONEST
504	HONEYCOMB
505	HOPE
506	HORSE
507	HOSPITAL
508	HOUR
509	HUDDLE
510	HULL
511	HUM
512	HUMILIATION
513	HUMILITY

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COMPLETE ALPHABETICAL LIST

WORD #	WORD	SMPL	C TH	N	MGF VECTOR V 1 DT	GP. TYPE CO	SM DATA IN CH.
514	HUNDRED	T,H	1A	5	0-0	N,A	1 - 4
515	HUNT	I	1B	5	0-0	N,V	1 -
516	HUNTER	I	2B	10	0-0	N	0
517	HURT	I	1B	9	0-0	N,V	1 -
518	HUSBAND	I	1B	9	0-0	N	1 -
519	HUT	I	2A	10	0-0	N	0 - 4
52?	IDEA	I	2A	10	0-0	N	0
521	IDENTICAL	I	4	1	0-0	A	0
522	ILLUSTRATE	T	5A	0	0-0	V	0
523	IMMEDIATE	T,H	2A	10	0-0	A	1 -
524	IMMUNITY	I	3	1	0-0	N	0
525	IMPATIENCE	I	8	0	0-0	N	0 -
526	IMPEDE	I	3A	0	0-0	V	0
527	IMPORTANCE	I	1A	10	0-0	N	0
528	IMPORTANT	I	1A	10	0-0	A	1
529	IMPOSSIBLE	T,H	2B	10	0-0	A	0 - 4,5
530	IMPRESS	I	5A	0	0-0	V	0
531	IMPRESSION	I	4A	0	0-0	N	1 -
532	IMPROVE	I	2A	0	0-0	V	0 - 4,5
533	IMPUTE	I	4	0	0-0	V	0
534	INCENSE	I	4A	0	0-0	N,V	0
535	INCLUDE	I	1B	10	0-0	V	0
536	INCREASE	I	2A	10	0-0	N,V	0 -
537	INDICATION	T,H	1	2B	0-0	N	0 - 3,4
538	INDIFFERENCE	I	7	10	0-0	N	1 -
539	INDIGNITY	I	3A	7	0-0	N	0
540	INDIVIDUAL	I	2B	10	0-0	N,A	1 -
541	INFLUENCE	I	1B	5	0-0	N,V	0 -
542	INLET	I	7	0	0-0	N	0
543	INN	I	1B	10	0-0	N	0
544	INQUIRY	I	53	1	0-0	N	0 -
545	INSIST	I	3B	0	0-0	V	0
546	INSPECTOR	I	3	10	0-0	N	0
547	INSTANCE	T,H	3A	0	0-0	N	0 - 3,4
548	INSTANT	I	1B	0	0-0	N,A	1 -
549	INSURANCE	I	5B	10	0-0	N	0 -
550	INTEGRATION	I	19	0	0-0	N	0
551	INTELLECTUAL	I	7	3	0-0	N,A	0 -
552	INTERNATIONAL	I	1B	6	0-0	A	0
553	INTEREST	T,H	2A	10	0-0	N,V	0 - 4
554	INVITE	I	4B	0	0-0	V	0 -
555	IRREGULAR	I	1B	10	0-0	A	0 -
556	ISLAND	I	2A	10	0-0	N	0 - 4
557	ISSUE	I	1A	10	0-0	N,V	0 -
558	IT	I	1A	0	1C-4	OT	0 -
559	ITCH	I	4A	0	0-0	N,V	0 -
560	JANITOR	I	2B	10	0-0	N	0
561	JAM	I	1A	9	0-0	N,V	0 - 4
562	JOB	I	3A	0	0-0	N,V	0 -
563	JOG	I	5	1	0-0	N,V	0 - 1

WORD #	WORD	SMPL	C TH	N	MGF VECTOR V 1 DT	GP. TYPE CO	SM DATA IN CH.
564	JOIN	I	1A	10	0-0	V	1 -
565	JUDGE	I	1B	5	0-0	N,V	1 - 3,4
566	JUMP	I	2A	10	0-0	N,V	1 -
567	JUNCTION	I	9	10	0-0	N	0
568	JUNGLE	I	6	10	0-0	N	1 - 4
569	JURY	I	2A	1	0-0	N	0 -
570	KICK	I	2B	9	0-0	N,V	1 -
571	KID	I	1B	1	0-0	N,V	1 -
572	KILL	I	1C	-1	0-0	V	0 -
573	KINDERGARTEN	I	2A	10	0-0	N	0
574	KITCHEN	I	2A	10	0-0	N	0 -
575	KNEAD	I	8	0	0-0	V	0
576	KNIFE	I	2A	7	0-0	N	3 -
577	KNOT	I	3A	3	0-0	N,V	0 -
578	KNOW	I	1A	9	0-0	V	0 - 4,5
579	KNOWLEDGE	I	2A	10	0-0	N	0 -
580	LABOR	I	1B	9	0-0	N,V	3 -
581	LADY	I	1R	10	0-0	N	0 -
582	LAIR	I	1A	8	0-0	N,V	0 -
583	LAKE	I	2A	10	0-0	N	0
584	LAND	I	4B	10	0-0	N,V	0 - 3,4
585	LANGUAGE	I	1A	10	1-INVA*	A	0 -
586	LANTERN	I	1A	7	L-INVA*	N	0
587	LARGE	I	1A	10	0-0	A	0 -
588	LAST	I	1A	1	0-0	V,A	0 -
589	LATE	I	2B	0	0-0	A	0
590	LATTER	I	3A	10	0-0	N	0 -
591	LAUGHTER	I	1A	10	0-0	N	0
613	LAW	I	1A	1	0-0	N	0 -
594	LEAD	I	1A	8	0-0	VVA	0 -
595	LEADER	I	7	10	0-C	NVA	0
596	LEADERSHIP	I	2A	1	0-0	VVA	0 -
597	LEAN	I	2A	7	0-0	V	0 -
598	LEARN	I	1B	10	0-0	V	0
599	LEAST	I	1A	1	0-0	A	0 -
600	LEAVE	I	1A	1	0-0	V,A	0 -
601	LEFT	I	1A	10	0-0	A	0 -
603	LEGISLATION	I	7	0	0-0	N	0 -
604	LEGISLATIVE	I	7	0	0-0	A	0
605	LENGTH	I	1A	10	0-0	N	0 -
606	LESSON	I	1B	10	0-0	N	0
607	LIFT	I	1A	1	0-0	N,V	0 -
608	LETTER	I	1C	-1	0-0	NVA	0 -
609	LEVEL	I	2A	8	0-0	N,A	0 - 4
610	LIBERAL	I	4A	3	0-0	N,V	0 -
611	LIBRARY	I	2B	2	0-0	N	0 -
612	LIE	I	1A	6	0-0	V,V	0 -
614	LIFE	I	1A	10	0-0	N	0 -
616	LIGHT	I	1A	1	0-0	NVA	3

COMPLETE ALPHABETICAL LIST

WORD #	WORD
617	LIGHTHOUSE
618	LIKE
619	LIKEN
620	LIMIT
621	LIMITATION
622	LIMP
623	LINK
624	LINK
625	LION
626	LISTEN
627	LITTLE
628	LIVE
629	LIVELY
630	LOAD
631	LOAN
632	LOBSTER
633	LODGE
634	LONESOME
635	LONG
636	LOOK
637	LORD
638	LOSE
639	LOSS
640	LOUD
641	LOVE
642	LOVER
643	LOW
644	LOWER
645	LOWLY
646	MAD
647	MADDEN
648	MAGGOT
649	MAGNET
650	MAINTAIN
651	MAJOR
652	MAJORITY
653	MAKE
654	MAN
655	MANAGE
656	MANNER
657	MANUFACTURE
658	MAP
659	MAPLE
660	MARCH
661	MARK
662	MARKET
663	MARRIAGE
664	MARRY
665	MART
666	MASS

WORD #	WORD
668	MASTER
669	MATTER
670	MATURE
671	MEAL
672	MEAN
673	MEAT
674	MEDICAL
675	MEDICINE
676	MEDITATE
677	MEET
678	MELLOW
679	MEMORY
680	MENTAL
681	MENTION
682	MESSAGE
683	METALLIC
684	METAPHOR
685	METHOD
686	MICROSCOPE
687	MIGHT
688	MILE
689	MILL
690	MIND
691	MINGLE
692	MINISTER
693	MINUS
694	MINUTE
695	MIRTHFUL
696	MISS
697	MISSILE
698	MIST
699	MISTAKE
700	MIX
701	MODERN
702	MOISTEN
703	MOLEST
704	MOMENT
705	MONETARY
706	MONEY
707	MONSTER
708	MONTH
709	MORAL
710	MORNING
711	MOTHER
712	MOTIVE
713	MOTOR
714	MOUNTAIN
715	MOVE
716	MOVEMENT
717	MUD

COMPLETE ALPHABETICAL LIST

Left table (WORD # 718–767):

WORD #	WORD	SMPL	O	TH	N	V	A	OT	TYPE	GR. CO SM	DATA IN CH.
718	MURDERER	T	2	5A	10	2	0	0–0	N	0	—
719	MUSHROOM	T	2	1R	10	0	0	0–0	N.V	1	—
720	MUSIC	I	1	1R	10	-1	0	0–0	N	0	—
721	MUTTON	I	3	5R	0	1	0	0–0	N	0	—
722	MUTUAL	T.H	5	4R	0	0	1	0–0	A	0	4,5
723	NAME	T	1	1A	8	2	0	0–0	N.V	0	—
724	NAMELESS	T.H	4	6	0	0	1	0–0	A	1	—
725	NATION	T	2	1R	10	0	0	0–0	N	0	—
726	NATIONAL	T.H	3	1R	10	0	1	0–0	N.A	1	4
727	NATURE	I	2	1R	10	0	0	0–0	N.V	0	—
728	NECESSARY	I	2	1R	0	0	1	0–0	A	0	—
729	NECK	I	1	1A	9	0	0	0–0	N.V	1	—
730	NEED	I	4	9	0	6	0	0–0	N.V	0	—
731	NEGLIGENCE	T	5	10	10	0	0	0–0	N	0	—
732	NEGOTIATION	T	4	10	10	0	0	0–0	N	1	—
733	NEIGHBOR	T	2	1R	10	-1	0	0–0	N	0	—
734	NERVOUS	I	2	4R	0	0	0	0–0	A	1	—
735	NIBBLE	I	1	6	3	7	0	0–0	N.V	0	—
736	NICKEL	T	4	4R	10	0	0	0–0	N.V	1	4,5
737	NIMBLE	T.H	2	5R	0	0	1	0–0	A	0	—
738	NINE	T	1	1R	0	-1	1	0–0	N.A	1	—
739	NOBODY	I	2	2R	10	0	0	0–0	N	0	4
740	NOISE	I	2	5A	10	0	0	9–4	N.V	1	—
741	NORMAL	T	2	5A	0	0	1	0–0	N.A	0	—
742	NORTHEAST	T	3	7	0	0	0	0–0	N	0	—
743	NOSE	I	1	1R	9	1	0	0–0	N.V	1	—
744	NOTION	T	3	1R	10	0	0	0–0	N	0	—
745	NOUN	T	4	10	10	0	0	0–0	N	0	—
746	NOVEL	T	3	5A	8	0	2	0–0	N.A	1	4,5
747	NUCLEAR	T	7	17	0	0	1	0–0	A	0	—
748	NUISANCE	T	3	8	10	0	0	0–0	N	0	—
749	NUMEROUS	T	3	3A	0	0	1	0–0	A	1	—
750	NURSE	I	1	2A	10	1	0	0–0	N.V	0	—
751	NURTURE	T	6	4A	10	10	0	0–0	N.V	4	—
752	OBEDIENCE	T	2	4R	17	0	0	0–0	N	0	—
753	OBJECT	T	6	1R	7	3	0	0–0	N.V	1	4
754	OBJECTIVE	T	7	14	0	0	2	0–0	N.A	0	—
755	OBSERVE	T	3	2A	0	10	0	0–0	V	0	—
756	OCCUR	T	5	23	0	10	0	0–0	V	3	—
757	OCTOPUS	I	5	1R	10	0	0	0–0	N.A	0	—
758	OFFENSIVE	T	5	17	-1	0	8	0–0	A.V	1	2,4
759	OFFER	I	1	1R	10	0	0	0–0	N.V	1	—
760	OFFICE	I	3	3A	10	0	0	0–0	N.A	0	—
761	OFFICER	I	1	1A	10	0	0	0–0	N	0	—
762	OFFICIAL	I	3	5P	10	0	2	0–0	A.V	0	—
763	OLD	I	1	1A	0	0	1	0–0	A	0	—
764	OPERATE	T	3	3A	0	10	0	0–0	V	3	2,4
765	OPERATION	T	4	2R	10	0	0	0–0	N	0	—
766	OPINION	I	2	2A	10	0	0	0–0	N	0	—
767	OPPORTUNITY	I	3	2A	10	0	0	0–0	N	0	—

Right table (WORD # 768–817):

WORD #	WORD	SMPL	O	TH	N	V	A	OT	TYPE	GR. CO SM	DATA IN CH.
768	ORCHESTRA	T	2	5R	10	0	0	0–0	N	0	2
769	ORDER	I	2	1A	8	2	0	0–0	N.V	2	—
770	ORE	I	2	1R	10	0	0	0–0	N	0	—
771	ORGANIZE	I	3	5A	0	10	0	0–0	V	0	—
772	OUT	T	1	1R	0	0	0	10–3	OT	1	3
773	OUTLAW	T	3	1R	10	0	0	0–0	N.V	0	—
774	OUTLET	T	5	4B	10	0	0	0–0	N	1	—
775	OUTRAGE	T	5	6	7	3	0	0–0	N.V	0	4,5
776	OVEN	T	1	5A	10	0	0	0–0	N	0	—
777	OVERTURN	T	4	3R	0	10	0	0–0	V	1	4,5
778	OWN	I	1	1A	1	2	7	0–0	NVA	3	—
779	OWNER	I	5	2R	10	0	0	0–0	N	0	—
780	OXIDATION	I	5	10	10	0	0	0–0	N	1	—
781	PACE	T.H	2	2A	6	6	0	0–0	N.V	0	4
782	PACK	T	2	2A	4	6	0	0–0	N.V	0	—
783	PAGE	I	1	1R	10	-1	0	0–0	N.V	1	4,5
784	PAIN	I	1	1B	9	5	0	0–0	N.V	0	—
785	PAINT	I	1	1B	5	5	0	0–0	N.V	0	—
786	PAPER	I	1	1A	9	0	0	0–0	N	1	—
787	PARACHUTE	T	3	12	9	0	0	0–0	N.V	2	—
788	PARADISE	T	4	3R	10	0	0	0–0	N.A	1	—
789	PARALYZE	T	2	8	-1	10	0	0–0	V	0	—
790	PARENT	I	2	2A	10	0	0	0–0	N	3	4,5
791	PARENT	I	5	5B	10	0	0	0–0	N	1	—
792	PARTICIPANT	T	4	16	9	0	0	0–0	N.A	1	—
793	PARTICIPATE	I	1	7	0	10	0	0–0	V	0	—
794	PARTNER	I	4	4A	10	0	0	0–0	N.V	0	—
795	PASS	T	7	2R	7	4	0	0–0	N.V	4	4
796	PATH	I	1	2A	10	0	0	0–0	N.A	1	—
797	PATIENT	I	2	1R	9	0	1	0–0	N.A	0	—
798	PATTER	T	7	7	6	0	0	0–0	N.V	0	—
799	PATTERN	I	3	2B	10	0	0	0–0	N.V	1	4
800	PAY	I	1	1A	2	8	0	0–0	N.V	0	—
801	PAYMENT	T	3	3B	10	0	0	0–0	N	3	—
802	PEACE	I	1	1R	10	0	0	0–0	N	0	—
803	PEACEFUL	T	3	4A	0	0	10	0–0	A	1	—
804	PEASANT	I	4	4A	10	0	0	0–0	N	0	—
805	PENITENT	T	3	7	0	0	9	0–0	A	0	—
806	PENNY	I	1	2B	10	0	0	0–0	N	1	—
807	PENSION	T	7	7A	10	0	0	0–0	N.V	0	—
808	PEOPLE	I	1	1A	9	0	0	0–0	N.V	0	4,5
809	PERFECT	I	2	1B	0	0	9	0–0	V.A	2	—
810	PERIOD	I	3	2R	10	0	0	0–0	N	1	—
811	PERMIT	T.H	2	1R	1	8	0	0–0	N.V	1	4
812	PERSISTENT	T	5	3A	0	0	7	0–0	A	1	—
813	PERSON	I	1	1A	10	0	0	0–0	N	0	—
814	PERSONAL	I	3	2B	-1	0	10	0–0	A	0	—
815	PERSONALITY	T	5	7	10	0	0	0–0	N	0	—
816	PHILOSOPHY	T	4	5A	10	0	0	0–0	N	0	3
817	PHYSIOLOGY	T	4	10	10	0	0	0–0	N	0	—

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COMPLETE ALPHABETICAL LIST

WORD #	WORD	SMPL	O TH	MGF VECTOR N	V	A	DT	TYPE	GR. CO	SM DATA IN CH.
918	PICK	T,H	1A	1	9	0	0-0	N,V	3	4
919	PICTURE	T,J	1A	9	0	0	0-0	N,V	3	—
920	PIECE	T,J	1A	9	0	0	0-0	N,V	3	—
921	PIG	T	2A	9	0	0	0-0	N,V	3	—
922	PIKE	T	7	9	0	0	0-0	N	3	4
923	PINEAPPLE	T	1A	9	0	0	0-0	N	1	—
924	PLACE	T,H	1A	9	0	0	0-0	N,V	3	—
925	PLAIN	H	1A	9	2	0	0-0	N,A	3	4,5
926	PLAN	T	1B	9	0	0	0-0	N,V	3	—
927	PLANE	T	4B	9	0	0	0-0	N,V	3	4,5
928	PLANK	T	5A	9	0	0	0-0	N,V	1	—
829	PLANT	T	1A	9	9	0	0-0	N,V	3	—
830	PLATFORM	T	4A	9	0	0	0-0	N	3	—
831	PLEASANT	H	1B	0	0	9	0-0	A	1	—
832	PLEASURE	T	1B	9	9	0	0-0	N,V	3	—
833	POCKET	T	2A	9	0	0	0-0	N,V	3	—
834	POD	T	10	9	0	0	0-0	N	1	—
835	POEM	T	3A	9	0	0	0-0	N	3	—
836	POETIC (S)	T	5A	0	0	9	0-0	A	2	—
837	POINT	T	1A	9	9	0	0-0	N,V	3	—
838	POLE	T	2A	9	0	0	0-0	N	3	—
839	POLICE	T	4A	9	9	0	0-0	N,V	3	4,5
840	POLICY	T	4B	9	0	0	0-0	N	3	—
841	POLITICAL	T	4A	0	0	9	0-0	A	3	—
842	POLITICIAN	T	4A	9	0	0	0-0	N	3	—
843	POLITICS	T	9	9	0	0	0-0	N,V	3	—
844	POLL	T	4B	9	9	0	0-0	N,V	3	—
845	POPULATION	T	3A	9	0	0	0-0	N	1	—
846	PORTRAIT	T	7	9	0	0	0-0	N	1	—
847	POSSIBILITY	T	5A	9	0	0	0-0	N	1	—
848	POSSIBLE	T	1B	0	0	9	0-0	A	3	—
849	POST	T	1B	9	2	0	0-0	N,V	3	—
850	POT	T	2A	9	0	0	0-0	N,V	3	—
851	POUND	T	1B	9	9	0	0-0	N,V	3	4,5
852	POVERTY	T	3B	9	0	0	0-0	N	1	—
853	POWERFUL	T	3A	0	0	9	1-1NVA*	A	1	—
854	PRACTICAL	T	3A	0	0	9	0-0	A	3	—
855	PRACTICE	T	1B	9	9	0	0-0	N,V	2	—
856	PRAY	T	2A	0	9	0	0-0	V	3	—
857	PRAYER	T	2A	9	0	0	0-0	N	3	—
858	PREDICT	T	7	0	9	0	0-0	V	3	—
859	PREFER	T	2A	0	9	0	0-0	V	3	3
860	PREGNANT	T	3	0	0	9	0-0	A	1	—
861	PREPARE	T	1B	0	9	0	0-0	V	3	—
862	PRESCRIBE	T	4A	0	9	0	0-0	NVA	1	—
863	PRESENT	T	1A	9	9	9	0-0	N,V	3	4
864	PRESERVE	T	2A	9	9	0	0-0	N,V	3	—
865	PRESIDENT	T	1B	9	0	0	0-0	N	3	—
866	PRESS	T	1A	9	9	0	0-0	N,V	3	—
867	PRESSURE	T	5A	9	0	0	0-0	N,V	1	4,5

WORD #	WORD	SMPL	O TH	MGF VECTOR N	V	A	DT	TYPE	GR. CO	SM DATA IN CH.
868	PRETEND	H	3A	0	9	0	0-0	V	3	—
869	PREVENT	H	2A	0	9	0	0-0	V	3	—
870	PREVIOUS	H	4A	0	0	9	0-0	A	3	—
871	PRICE	H	1B	9	9	0	0-0	N,V	3	—
872	PRIEST	H	3A	9	0	0	0-0	N	1	4
873	PRIMARY	T,H	5B	0	0	9	0-0	A	3	3
874	PRINCE	H	1A	9	0	0	0-0	N	1	—
875	PRINCIPAL	H	2A	9	0	0	0-0	N,A	1	4,5
876	PRIVATE	H	2A	0	0	9	0-0	N,A	3	—
877	PROBABLE	H	3A	0	0	9	0-0	A	1	—
878	PROGRESS	H	3A	9	9	0	0-0	N,V	3	—
879	PROCEED	H	2A	0	9	0	0-0	V	3	—
880	PROCESSION	H	4B	9	0	0	0-0	N	1	—
881	PROGRAM	T	3A	9	9	0	0-0	N,V	3	—
882	PROGRESS	T	3A	9	9	0	0-0	N,V	3	4
883	PROJECT	T	5A	9	9	0	0-0	N,V	3	—
884	PROLIFIC	T	8	0	0	9	0-0	A	1	—
885	PROLOGUE	T	1B	9	0	0	0-0	N,V	1	—
886	PROMISE	T	6	9	9	0	0-0	N,V	3	4
887	PROMOTE	T	2B	0	9	0	0-0	V	3	—
888	PROMPT	T	7	0	9	9	0-0	NVA	1	—
889	PROPER	T	3A	0	0	9	0-0	A	3	4
890	PROPOSAL	T	5B	9	0	0	0-0	N	3	—
891	PROPOSITION	T	2A	9	9	0	0-0	N,V	1	—
892	PROTECT	T	1B	0	9	0	0-0	V	3	—
893	PROVE	T	1B	0	9	0	0-0	V	3	—
894	PROW	T	10	9	0	0	0-0	N	1	3
895	PROWL	T	8	0	9	0	0-0	N,V	1	—
896	PRY	T	7	0	9	0	0-0	N,V	1	—
897	PUBLIC	T	2A	9	0	9	0-0	N,A	3	—
898	PULL	T	1B	9	9	0	0-0	N,V	3	—
899	PURPOSE	T	1B	9	0	0	0-0	N,V	3	—
900	PUSH	T	2A	9	9	0	0-0	N,V	3	—
901	PYRAMID	T	7	9	0	0	0-0	N	1	—
902	QUALIFICATION	H	8	9	0	0	0-0	N	1	—
903	QUARANTINE	H	10	9	0	0	0-0	N,V	1	—
904	QUESTION	H	3A	9	9	0	0-0	N,V	3	—
905	QUICK	H	1A	0	0	9	3-1NVA*	A	3	—
906	QUIVER	H	4A	9	9	0	0-0	N,V	1	—
907	RABBIT	T	2A	9	0	0	0-0	N	3	—
908	RACE	T	1B	9	9	0	0-0	N,V	3	—
909	RACIAL	T	7	0	0	9	0-0	A	1	—
910	RADICAL	T	4A	9	0	9	0-0	N,A	1	—
911	RAIN	T	1A	9	9	0	0-0	N,V	3	—
912	RAINFALL	T	4A	9	0	0	0-0	N	1	3,4
913	RAINY	T	2A	0	0	9	0-0	A	1	—
914	REACH	T	1A	9	9	0	0-0	N,V	3	—
915	REACT	T	2A	0	9	0	0-0	V	3	—
916	READ	T	1A	9	9	0	0-0	V	3	—
917	READY	T	1A	0	0	9	0-0	A	3	4,5

COMPLETE ALPHABETICAL LIST

WORD #	WORD	SMPL	O	TH	MGF VECTOR N	V	A	OT	GR. TYPE	SM CO	DATA IN CH.
918	REAL	T	1	1B	9	0	10	0-0	A	0	3
919	REASON	H	3	1A	9	1	0	0-0	N.V	1	—
920	RECOMMEND	T	3	3B	10	10	0	0-0	N.V	0	—
921	RECORD	H	2	2A	9	1	0	0-0	A	1	—
922	RECTANGULAR		3	6	0	0	10	0-0	A	0	—
923	REGARD	H	3	2A	6	4	0	0-0	N.V	1	—
924	RELATE	T.H	2	3A	10	10	0	0-0	V	0	4
925	RELATIONSHIP	H	3	8	10	0	0	0-0	N	0	—
926	RELATIVE	H	3	3A	7	0	0	0-0	N.A	4	—
927	RELAXATION	T	3	10	10	0	0	0-0	N	0	—
928	RELIABLE	T	3	6	0	0	10	0-0	A	0	—
929	REMEMBER	H	1	4A	10	0	0	0-0	V	0	—
930	REMIND	T	6	2B	1	0	0	0-0	N.V	3	3
931	RENDER	T	7	5A	0	9	0	0-0	V	0	—
932	RENOUNCE		2	1R	6	10	0	0-0	N.V	0	—
933	REPORT	T	2	1A	20	10	0	1-0	N.V	1	—
934	REPORTER	T	4	3A	6	0	0	0-0	N.V	1	4
935	REPRESS	T	3	2A	5	10	0	0-0	N.V	1	—
936	RESERVE	H	3	5B	0	0	0	0-0	N.V	1	—
937	RESPECT	T	3	B	10	0	0	0-0	A	0	—
938	RESPECTFUL	T	1	1A	7	0	0	0-0	N.V	2	—
939	RESPONSIBILITY	H	3	2A	7	0	0	0-0	N.V	0	—
940	REST	T	2	8	10	5	0	0-0	NVA	1	4
941	RESULT	H	1	2A	7	0	0	0-0	N.V	1	—
942	RETIREMENT	T	1	1A	3	0	0	0-0	N	0	—
943	REVEREND	H	4	4B	-1	10	0	0-0	N.A	1	—
944	RICE	T	3	3A	3	0	0	0-0	N.V	3	—
945	RIFT	H	7	1A	9	0	0	0-0	N.V	1	—
946	RIGHT	T	2	2A	4	0	0	0-0	N.A	1	—
947	RISE	H	1	1R	3	7	0	0-0	N.V	1	—
948	RIVER	T	1	1A	10	0	0	0-0	N	0	—
950	ROAD	H	1	1A	10	0	0	0-0	N	0	—
951	ROLE	T	2	1A	12	0	0	0-0	N	0	4
952	ROLL	H	1	1A	4	0	0	0-0	N.V	1	4
953	ROOM	T.H	1	1A	2	0	0	0-0	N	0	—
954	ROSE	H	3	1F	10	0	0	0-0	N.V	1	—
955	ROTATION	T	7	10	-1	0	0	0-0	N.A	1	—
956	ROVE	T	3	4A	6	0	0	0-0	N.V	1	—
957	ROYAL	T	1	2A	9	0	0	0-0	N.A	2	—
958	RUN	T.H	1	1A	2	8	0	0-0	N.A	1	—
959	PUSH	H	2	1A	9	0	0	0-0	N.V	1	—
960	SAFFRON	T	7	10	0	0	0	0-0	A	1	—
961	SAND	H	1	1R	6	0	0	0-0	N.V	1	3.4
962	SANF	T	4	1A	9	0	0	0-0	N.A	1	4.5
963	SAUCER	T	3	2B	4	0	0	0-0	N.V	1	—
964	SAVAGE	H	1	3A	3	0	0	0-0	N.V	1	—
965	SAY	H	1	1A	2	9	0	0-0	N.V	1	—
967	SCAPE	T	1	7	0	0	0	0-0	A	1	—
968	SCHOOL										
969	SCIENTIFIC										

WORD #	WORD	SMPL	O	TH	MGF VECTOR N	V	A	OT	GR. TYPE	SM CO	DATA IN CH.
970	SCISSOR	T	2	5A	9	-1	0	0-0	N.V	1	4
971	SCOOP	T	3	3A	2	8	0	0-0	N.V	1	4
972	SCREAM	H	3	3A	9	9	0	0-0	N.V	1	4
973	SCREEN	T	1	4A	9	2	0	0-0	N.V	3	3.4
974	SEARCH	T	1	2A	2	8	0	0-0	N.V	0	—
975	SEASON	T	3	1B	10	0	0	0-0	N	1	4.5
976	SECRETARY	H	3	3B	10	0	0	0-0	N	3	—
977	SECURE	H	2	2A	0	8	2	0-3	V.A	0	4
978	SECURITY	H	3	5B	10	0	0	0-0	N	1	—
979	SEE (SAW)	H	1	1A	1	9	0	0-0	N.V	4	—
980	SAW <SEE	H	1	1A	2	9	0	0-0	N.V	3	—
981	SEEK	T	1	13	0	10	0	0-0	V	0	—
982	SEEM	H	4	1A	0	0	0	0-0	V	0	—
983	SEIZURE	T	1	9	10	0	0	0-0	N	0	—
984	SELL	T.M	1	1A	1	10	0	0-0	N.V	1	—
985	SEND	T	2	2A	8	2	0	0-0	N.V	1	3
986	SENSE	H	1	1B	2	3	0	0-0	N.V	0	—
987	SEPARATE	T	4	3A	10	7	0	0-0	V.A	0	4
988	SEPS	T	3	1C	0	0	0	0-0	A	0	—
989	SERIOUS	H	1	23	10	0	10	0-0	A	0	—
990	SERVANT	H	2	2A	10	0	0	0-0	N	0	—
991	SESSION	T	3	6	10	0	0	0-0	N	0	—
992	SET	H	1	1A	2	7	1	0-0	NVA	3	—
993	SETTLE	T	1	1B	10	0	0	0-0	N.V	0	—
994	SHAPE	H	4	1B	8	2	0	0-0	N.V	1	—
995	SHATTER	T	4	4B	10	0	0	0-0	N.V	0	—
996	SHEEN	T	6	10	10	0	0	0-C	N	0	—
997	SHEEP	H	2	10	10	0	0	0-0	N	1	—
998	SHELF (SHELVES)	<TH	1	48	10	0	0	0-0	N.V	0	—
1000	SHELL	T	2	2A	10	0	0	0-0	N.V	1	—
999	SHELVE	K	7	7	0	10	0	0-0	V	0	—
1002	SHIFT	H	3	3B	9	5	0	0-0	N.V	1	—
1003	SHOCK	H	2	2B	5	0	0	0-0	N.V	1	—
1004	SHGE	H	1	1B	8	0	0	0-0	N.V	0	—
1005	SHOP	H	1	1R	2	7	0	0-0	N.V	1	—
1006	SHOOT (SHOT)	H	1	2A	9	10	0	0-0	N.V	0	—
1007	SHOT <SHOOT	H	1	2A	7	1	0	0-0	N.V	0	—
1009	SHGUT	T	1	1B	3	0	0	0-0	NVA	3	—
1010	SHGW	H	1	1A	4	0	0	0-0	V	1	—
1011	SHRUNK	H	7	6	0	0	0	0-0	A	0	—
1012	SHUT	H	1	1B	7	10	0	0-0	N.V	1	4.5
1013	SICK	T	1	1B	10	0	0	0-0	A	0	—
1014	SICKNESS	H	1	3A	10	0	0	0-0	N	0	—
1015	SIGHT	T	1	1A	1	0	0	0-0	N.V	1	—
1016	SIGN	T	1	1B	8	2	0	0-0	N.V	1	—
1017	SIGNIFICANCE	T	7	7	10	0	0	0-0	N	0	—
1018	SIMILAR	H	3	3B	10	0	0	0-0	A	0	—
1019	SIREN	T	4	9	10	0	0	0-0	N	0	—
1020	SISTER	H	1	1A	10	0	0	0-0	N	0	—
1021	SIT	H	1	1A	10	0	0	0-0	V	0	—

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COMPLETE ALPHABETICAL LIST

Column headers (rotated tables): WORD #, WORD, SMPL, O TH, MGF VECTOR (N, V, A CT), GR. TYPE, SM CO, DATA IN CH.

Left table:

WORD #	WORD	SMPL	O TH	N	V	A CT	GR. TYPE	SM CO	DATA IN CH.
1022	SITUATION	H	4A	10	0	0	N	0	—
1023	SKIRT	T	2A	7	3	0-0	N,V	4	4,5
1024	SKY	H	1B	10	0	0-0	N	0	—
1025	SLAVE	H	2A	8	1	0-0	N,V	1	—
1026	SLEEP	H	1A	3	7	0-0	N,V	1	4,5
1027	SLEIGH	T	5A	8	2	0-0	N,V	1	—
1028	SLIT	H	2A	2	2	0-0	N,V	0	4,5
1029	SLOPE	H	2A	8	2	0-0	N,V	1	—
1030	SMALL	T	1A	0	0	10-0	A	1	—
1031	SMILE	H	1B	5	5	0-0	N,V	0	—
1032	SMUGGLE	H	3B	0	10	0-0	V	1	4,5
1033	SNAKE	H	3B	-1	2	0-0	N,V	1	—
1034	SNATCH	H	1B	2	7	0-0	N,V	1	4,5
1035	SNOW	H	6	8	2	0-0	N,V	0	3
1036	SOCKET	H	4B	9	-1	0-0	N,V	1	—
1037	SOFTEN	T	1A	-1	10	0-0	N,A	0	4
1038	SOLDIER	H	4A	10	0	0-0	N	1	—
1039	SOLITARY	T	6	0	0	10-0	A	0	—
1040	SOLUBLE	H	5B	10	0	0-0	N	0	—
1041	SOLUTION	H	3B	10	0	0-0	N	1	—
1042	SOLVE	H	7	0	10	0-0	V	0	—
1043	SORDID	H	1A	0	0	10-0	A	0	—
1044	SORROW	H	2A	10	0	0-0	N,V	0	—
1045	SORRY	H	2A	0	0	10-0	A	0	4
1046	SORT	T	1B	7	3	0-0	N,V	1	—
1047	SOUND	H	1A	6	1	0-0	N,V,A	2	3,4
1048	SOUTHWARD	H	5B	0	0	8-INVA*	B-INVA*	1	—
1049	SPARE	T	3B	0	2	0-0	V,A	4	—
1050	SPARSE	H	2A	0	0	10-0	A	0	—
1051	SPEAK	H	10	0	10	0-0	V	1	—
1052	SPEAR	H	7	5	5	0-0	N,V	2	4,5
1053	SPEAR	H	3A	9	1	0-0	N,V	1	—
1054	SPEECH	H	2A	10	0	0-0	N	0	—
1055	SPEND	T	1B	0	10	0-0	V	1	4
1056	SPIRIT	H	1B	9	1	0-0	N,V	1	—
1057	SPIT	H	4B	5	5	0-0	N,V	1	4,5
1058	SPITE	H	2A	9	1	0-0	N,V	1	—
1059	SPLINTER	<TH	1B	-10	0	0-0	V	2	—
1060	SPOKE <SPEAK	H	2A	9	1	0-0	N,V	1	—
1061	SPORT	H	1B	3	7	0-0	N,V	1	—
1062	SPOT	T	1B	5	5	0-0	N,V	1	—
1063	STAIN	H	3A	1	9	0-0	N,V	1	—
1064	STAMMER	H	6	-1	2	0-0	N,V	2	4
1065	STAND	H	1A	2	7	0-0	N,V	1	—
1066	STANDARD	H	2A	7	0	0-0	N,A	3	4
1067	STAR	H	1B	9	1	0-0	N,V	1	—
1068	START	H	1A	1	9	0-0	V	1	—
1069	STATE	H	1A	8	2	0-0	N,V	4	—
1070	STATEMENT	H	4A	10	0	0-0	N	1	—
1071	STATION	H	2A	9	1	0-0	N,V	1	—
1072	STATUS	H	1B	10	0	0-0	N	0	—

Right table:

WORD #	WORD	SMPL	O TH	N	V	A CT	GR. TYPE	SM CO	DATA IN CH.
1073	STAY	H	1A	1	9	0-0	N,V	2	—
1074	STEEP	H	3B	1	0	0-0	N,V	3	4
1075	STICK	H	1B	5	5	0-0	N,V	0	—
1076	STIMULANT	H	10	10	0	0-0	N	1	—
1077	STIR	H	2A	2	8	0-0	N,V	1	4
1078	STONE	H	1A	9	1	0-0	N,V	1	—
1079	STOP	H	1B	1	9	0-0	N,V	1	—
1080	STORE	H	1B	9	1	0-0	N,V	1	—
1081	STORM	H	1B	8	2	0-0	N,V	1	—
1082	STORY	H	1A	10	0	0-0	N	0	—
1083	STRANGE (-ER?)	<TH	1B	0	0	10-0	A	1	4,5
1084	STRANGER	T	2B	9	1	0-0	N,A	0	—
1086	STREET	H	1A	10	0	0-0	N	1	—
1087	STRENGTH	H	1B	10	0	0-0	N	0	4
1088	STROLL	H	1A	1	9	0-0	N,V	1	—
1089	STRONG	T	7	0	0	10-0	A	0	4,5
1090	STRUCTURE	T,H	2A	8	2	0-0	N,V	1	—
1091	STRUGGLE	H	2A	2	8	0-0	N,V	1	—
1092	STUDENT	H	2B	10	0	0-0	N	1	—
1093	STUDY	H	1B	5	5	0-0	N,V	1	—
1094	SUBJECT	H	3B	8	0	0-0	N,V,A	3	—
1095	SUCCEED	H	2A	0	10	0-0	V	1	—
1096	SUCCESS	H	2A	10	0	0-0	N	1	—
1097	SUDDEN	H	1B	0	0	10-0	A	0	—
1098	SUFFER	H	1B	0	10	0-0	V	1	—
1099	SUGGEST	H	3A	0	10	0-0	V	0	—
1100	SUGGESTION	T,H	1R	10	0	0-0	N	1	—
1101	SUIT	H	7	3	7	0-0	N,V	1	—
1102	SUITOR	H	1A	10	0	0-0	N	0	—
1103	SUMMER	H	2A	8	2	0-0	N,V	1	4
1104	SUN	H	1B	8	2	0-0	N,V	0	—
1105	SUNNY	H	3B	0	0	10-0	A	1	—
1106	SUPPLY	T,H	1B	7	3	0-0	N,V	1	4,5
1107	SUPPORT	H	2A	6	0	0-0	N,V	3	—
1108	SURPRISE	H	1B	4	6	0-0	N,V	1	4
1109	SUSCEPTIBLE	H	8	0	0	0-0	A	0	—
1110	SUSPICION	T	5B	9	0	0-0	N,A	1	4,5
1111	SWAMP	H	4A	6	4	0-0	N,V	1	—
1112	SWIM	H	2A	2	8	0-0	N,V	1	—
1113	SYRUP	H	6	10	0	0-0	N	0	—
1114	TABLE	H	1A	9	1	0-0	N,V	1	4,5
1115	TAG	H	6	8	2	0-0	N,V	1	—
1116	TAKE	H	1A	1	9	0-0	N,V	4	—
1216	WASHER	H	23	10	0	0-0	N	1	4,5
1117	TALK	H	1B	2	8	0-0	N,V	1	—
1118	TARRY	H	5A	0	10	0-0	V,A	2	—
1119	TASK	H	2A	9	1	0-0	N,V	1	—
1120	TAUNT	H	6	-1	9	0-0	N,V	2	—
1121	TAX	H	2A	5	1	0-0	N,V	1	—
1122	TEACH	H	1B	0	10	0-0	V	0	—

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WORD #	WORD	SMPL
1123	TEACHER	H
1124	TEAR	T
1125	TELL	H
1126	TEMPTATION	T
1127	TENEMENT	T
1128	TENTH	H
1129	TERM	H
1130	TETHER	H
1131	THANK	H
1132	THIEF	H
1133	THINK	H
1134	THOUGHT	H
1135	THROB	T
1136	THROB	T
1137	TIDY	H
1138	TIE	H
1139	TIGER	H
1140	TIME	H
1141	TINGE	T
1142	TINY	H
1143	TIRE	T
1144	TOMBSTONE	T.H
1145	TOOTHPICK	T
1146	TOP	T
1147	TOPIC	T
1148	TOTAL	T
1149	TOUCH	H
1150	TOUR	T
1151	TOWN	T.H
1152	TRADE	H
1153	TRAIN	T
1154	TRANCE	T
1155	TRANSFORMATION	T
1156	TRAVEL	T
1157	TRAY	T
1158	TREACHEROUS	H
1159	TREAT	H
1160	TREE	H
1161	TRIBE	T
1162	TRIP	H
1163	TRIUMPH	H
1164	TROUBLE	H
1165	TRUE	H
1166	TRUST	H
1167	TRUTH	H
1168	TRY	H
1169	TUNIC	T
1170	TURPENTINE	T
1171	TWINE	T
1172	TYPE	H
1173	TYRANNICAL	T

WORD #	WORD	SMPL
1174	UMPIRE	T.H
1175	UNABLE	H
1176	UNCLE	H
1177	UNCONSCIOUS	T
1178	UNCTUOUS	T
1179	UNDER	H
1180	UNDERSTAND	H
1181	UNDISTURBED	H
1182	UNIFORM	T
1183	UNION	H
1184	UNITE	H
1185	UNIVERSITY	H
1186	UNLOAD	T
1187	UNPLEASANT	T
1188	UNRULY	T
1189	UNTIE	H
1190	UNTO	H
1191	UNUSUAL	H
1192	UPSET	T
1193	USE	H
1194	UTILIZE	T
1195	UTMOST	T
1196	VALOR	T.H
1197	VALUE	H
1198	VAPOROUS	T
1199	VENOMOUS	T
1200	VIEW	H
1201	VILLAGE	H
1202	VINEYARD	T
1203	VINTAGE	T
1204	VIOLIN	H
1205	VISION	H
1206	VISIT	H
1207	VOICE	H
1208	VOLUNTEER	T
1209	VOTE	H
1210	VULGAR	T
1211	WAIT	H
1212	WAKE	H
1213	WALK	H
1214	WANT	T
1215	WARM	H
1216	WASTE	T
1217	WATCH	H
1218	WATCH	T
1219	WAX	T
1220	WEAKEN	H
1221	WEALTH	H
1222	WEAPON	H
1223	WEATHER	H
1224	WEEK	H

COMPLETE ALPHABETICAL LIST

WORD	SMPL	O TH	MGF VECTOR				GP. TYPE NVA	SM CO	DATA IN CH.
			N	V	A	OT			
1225 WELCOME	H	1 2A	2	4	4	0-0 NVA	1	—
1226 WHICHEVER	-	0 8	3	0	5	5-4NVA*	1	—
1227 WIDE	H	1 1A	0	0	10	0-0 A	0	—
1228 WIFE	H	1 1B	10	0	0	0-0 N	0	—
1229 WILL	H	1 1A	1	2	0	0-0 N,V	4	—
1230 WIND	H	1 1A	8	2	0	0-0 N,V	0	—
1231 WINDOW	J	1 1A	10	0	0	0-0 N	0	—
1232 MINE	H	1 2A	9	1	0	0-0 N,V	1	—
1233 WIRY	H	7 9	0	0	10	0-0 A	0	—
1234 WIRY	T,H	1 1A	2	8	0	0-0 N,V	0	4,5
1235 WISH		7 9	10	0	0	0-0 N,)	1	—
1236 WISP	T	1 3A	9	1	0	0-0 N,)	0	4
1237 WITCH	H	1 1A	10	0	0	0-0 N	1	—
1238 WOMAN	H	1 1B	10	0	10	0-0 A	0	—
1239 WONDERFUL	T	1 4B	0	4	0	0-0 N,V	0	—
1240 WOODLAND	H	1 1A	6	4	0	0-0 N,V	1	—
1241 WORK	H	1 3R	10	0	0	0-0 N	0	—
1242 WORKER	H	1 1A	10	0	0	0-0 N	1	—
1243 WORLD	H	1 3R	2	8	0	0-0 N,V	1	4,5
1244 WORRY	H	1 2A	2	8	0	0-0 N,V	3	—
1245 WOUND	T	1 5B	0	0	0	0-0 V	0	—
1246 WRING	T	1 1B	1	1	8	0-0 NVA	1	—
1247 WRONG	H	1 1A	9	1	0	0-0 N,V	0	—
1248 YARD	T	1 1A	10	0	0	0-0 N	1	4,5
1249 YFAR	T	1 4A	2	8	0	0-0 N,V	0	—
1250 YELL	T	7 10	10	0	0	0-0 N	0	—
1251 YOLK	H	2 2A	10	0	0	0-0 N	0	—
1252 YOUTH	T	2 5A	9	-1	0	0-0 N,V	3	4
1253 ZERO	T	6	-1	-4	4	3-INVA*	1	—
1254 ZIGZAG	T	3 7	10	0	0	0-0 N	0	—
1255 ZINC								

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WORD #	WORD	SMPL	C TH	N	V	A OT	TYPE	CD	IN CH.
209	CHARACTER	H	7A 10	0	0	0-0	Z	0	-
214	CHILD	H	1A 10	0	0	0-0	Z	0	-
221	CITIZEN	T,H	2B 10	0	0	0-0	Z	0	-
222	CITY	T	1A 10	0	0	0-0	Z	0	-
224	CLAY	T	2B 10	0	0	0-0	Z	0	-
232	COINCIDENCE	H	9 10	0	0	0-0	Z	0	-
233	COLLEGE	H	2A 10	0	0	0-0	Z	0	-
236	COMMANDER	H	4B 10	0	0	0-0	Z	0	-
238	COMPETITION	H	5 10	0	0	0-0	Z	0	-
239	COMPLAINT	H	4A 10	0	0	0-0	Z	0	-
240	COMPLEXITY	H	10 10	0	0	0-0	Z	0	-
244	CONFIDANT	H	10 10	0	0	0-0	Z	0	-
247	CONGRESS	H	2B 10	0	0	0-0	Z	0	-
248	CONNECTION	H	3B 10	0	0	0-0	Z	0	-
255	CONTRIBUTION	H	7 10	0	0	0-0	Z	0	-
257	CONVERSATION	H	3A 10	0	0	0-0	Z	0	-
258	CONVENTION	H	4A 10	0	0	0-0	Z	0	-
264	COUNSELLOR	T	1A 10	0	0	0-0	Z	0	-
265	COUNTRY	H	2B 10	0	0	0-0	Z	0	-
267	COURAGE	H	7A 10	0	0	0-0	Z	0	-
270	COUSIN	H	5 10	0	0	0-0	Z	0	-
280	CUTLERY	H	6 10	0	0	0-0	Z	0	-
281	DAGGER	H	1B 10	0	0	0-0	Z	0	-
282	DAUGHTER	H	A 10	0	0	0-0	Z	0	-
284	DAY	H	1A 10	0	0	0-0	Z	0	-
287	DEADLOCK	H	4A 10	0	0	0-0	Z	0	-
289	DEATH	H	3A 10	0	0	0-0	Z	0	-
291	DECISION	H	3B 10	0	0	0-0	Z	0	-
294	DEFENSE	H	4B 10	0	0	0-0	Z	0	-
295	DELIVERY	H	8 10	0	0	0-0	Z	0	-
296	DELUSION	H	7 10	0	0	0-0	Z	0	-
297	DEMOCRAT	T,H	3B 10	0	0	0-0	Z	0	-
298	DEPRESSION	H	4A 10	0	0	0-0	Z	0	-
300	DESCRIPTION	H	3B 10	0	0	0-0	Z	0	-
307	DEVELOPMENT	H	4A 10	0	0	0-0	Z	0	-
312	DIFFICULTY	H	2A 10	0	0	0-0	Z	0	-
317	DIRECTION	H	5A 10	0	0	0-0	Z	0	-
320	DISCUSSION	H	9 10	0	0	0-0	Z	0	-
325	DIVERSION	H	2A 10	0	0	0-0	Z	0	-
332	DOLLAR	H	8 10	0	0	0-0	Z	0	-
335	DOWNFALL	H	10 10	0	0	0-0	Z	0	-
344	DUSTER	H	10 10	0	0	0-0	Z	0	-
345	DUTY	H	3A 10	0	0	0-0	Z	0	-
349	EDUCATION	H	4B 10	0	0	0-0	Z	0	-
352	EFFORT	H	2B 10	0	0	0-0	Z	0	-
354	EMPLOYEE	H	4B 10	0	0	0-0	Z	0	-
357	EMPLOYMENT	H	5B 10	0	0	0-0	Z	0	-
360	ENERGY	H	4B 10	0	0	0-0	Z	0	-
365	ENTERTAINMENT	H	5A 10	0	0	0-0	Z	0	3
373	EVENING	H	1B 10	0	0	0-0	Z	0	-

WORD #	WORD	SMPL	C TH	N	V	A OT	TYPE	CD	IN CH.
1	ABILITY	H	43 10	0	0	0-0	Z	0	-
8	ACCOMPLICE	H	9 10	0	0	0-0	Z	0	-
16	ACTION	H	2B 10	0	0	0-0	Z	0	-
18	ACTIVITY	H	7 10	0	0	0-0	Z	0	-
20	ADDITION	H	2A 10	0	0	0-0	Z	0	-
24	ADMINISTRATION	H	5A 10	0	0	0-0	Z	0	-
27	ADVANTAGE	H	7 10	0	0	0-0	Z	0	-
28	ADVERTISEMENT	H	2A 10	0	0	0-0	Z	0	-
29	ADVICE	H	2B 10	0	0	0-0	Z	0	-
30	AFFAIR	H	7B 10	0	0	0-0	Z	0	-
32	AFFINITY	H	10 10	0	0	0-0	Z	0	-
35	AFTERNOON	H	1B 10	0	0	0-0	Z	0	-
39	AGENCY	H	5B 10	0	0	0-0	Z	0	-
43	AGREEMENT	T,H	5A 10	0	0	0-0	Z	0	-
48	ALBUM	H	10 10	0	0	0-0	Z	0	-
53	ALTERATION	H	7 10	0	0	0-0	Z	0	-
54	AMATEUR	H	3B 10	0	0	0-0	Z	0	-
63	ANXIETY	H	4A 10	0	0	0-0	Z	0	-
65	APARTMENT	H	5A 10	0	0	0-0	Z	0	-
69	APPETITE	H	7B 10	0	0	0-0	Z	0	-
73	AREA	H	3A 10	0	0	0-0	Z	0	-
75	ARGUMENT	H	3B 10	0	0	0-0	Z	0	-
78	ARMY	H	1A 10	0	0	0-0	Z	0	-
83	ARROW	H	2B 10	0	0	0-0	Z	0	-
87	ASPECT	H	5B 10	0	0	0-0	Z	0	-
88	ASSIGNMENT	H	4A 10	0	0	0-0	Z	0	-
89	ASSISTANCE	H	4A 10	0	0	0-0	Z	0	-
91	ASSOCIATION	H	4B 10	0	0	0-0	Z	0	-
96	ATTENTION	H	2B 10	0	0	0-0	Z	0	-
98	ATTITUDE	H	5B 10	0	0	0-0	Z	0	-
99	AUNT	H	7A 10	0	0	0-0	Z	0	-
100	AUTHORITY	H	2B 10	0	0	0-0	Z	0	-
115	BANKER	H	5B 10	0	0	0-0	Z	0	-
117	BASEBALL	H	6 10	0	0	0-0	Z	0	-
119	BASIS	H	4B 10	0	0	0-0	Z	0	-
130	BEHALF	H	4A 10	0	0	0-0	Z	0	-
147	BLINDNESS	H	5A 10	0	0	0-0	Z	0	-
155	BOILER	H	7 10	0	0	0-0	Z	0	-
159	BOOTY	H	1A 10	0	0	0-0	Z	0	-
164	BOY	H	2A 10	0	0	0-0	Z	0	-
173	BROTHER	H	5B 10	0	0	0-0	Z	0	-
176	BROW	H	6 10	0	0	0-0	Z	0	-
178	BUILDING	H	1B 10	0	0	0-0	Z	0	-
180	BURNER	H	4B 10	0	0	0-0	Z	0	-
183	CAMEL	C,H	4B 10	0	0	0-0	Z	0	-
187	CAP	H	1B 10	0	0	0-0	Z	0	-
188	CARCASS	H	5A 10	0	0	0-0	Z	0	-
192	CARRIER	H	2A 10	0	0	0-0	Z	0	-
198	CATTLE	H	7 10	0	0	0-0	Z	0	-
201	CAVITY	H	1B 10	0	0	0-0	Z	0	-

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WORD #	WORD	SMPL	O TH	N	MGF VECTOR N V A OT	GR TYPE	SM CO	DATA IN CH
374	EVENT	H	3 2A	10	0 0 0-0	Z	0	—
377	EXAMPLE	H	3 2A	10	0 0 0-0	Z	0	—
382	FACT	T	1 1R	10	0 0 0-0	Z	0	—
385	FAILURE	H	1 5A	10	0 0 0-0	Z	0	—
392	FAITH	H	1 2A	10	0 0 0-0	Z	0	—
394	FAMILY	H	1 1A	10	0 0 0-0	Z	0	—
414	FISHERMAN	T	4 4B	10	0 0 0-0	Z	0	—
417	FLASK	T	1 9	10	0 0 0-0	Z	0	—
424	FOLLY	T	1 3A	10	0 0 0-0	Z	0	—
425	FOOD	H	1 1A	10	0 0 0-0	Z	0	—
432	FORT	T	2 2B	10	0 0 0-0	Z	0	—
438	FREEDOM	H	1 2A	10	0 0 0-0	Z	0	—
439	FRIENDSHIP	H	1 3A	10	0 0 0-0	Z	0	—
444	GALLEY	T,H	3 8	10	0 0 0-0	Z	0	—
448	GENERATION	T	3 7	10	0 0 0-0	Z	0	—
449	GENEROSITY	T	5 10	10	0 0 0-0	Z	0	—
451	GEOLOGY	T	1 1A	10	0 0 0-0	Z	0	—
454	GIRL	H	4 4B	10	0 0 0-0	Z	0	—
458	GOAL	H	1 2A	10	0 0 0-0	Z	0	—
459	GOAT	T	1 13	10	0 0 0-0	Z	0	—
465	GRANDCHILD	H	5 6	10	0 0 0-0	Z	0	—
478	GULLO	T	7 6	10	0 0 0-0	Z	0	—
489	HEADACHE	T	6 4A	10	0 0 0-0	Z	0	—
492	HEDGEHOG	H	1 2A	10	0 0 0-0	Z	0	—
497	HILLSIDE	T	1 3A	10	0 0 0-0	Z	0	—
500	HISTORY	H	1 1A	10	0 0 0-0	Z	0	—
507	HOSPITAL	T	7 10	10	0 0 0-0	Z	0	—
508	HOUR	H	3 10	10	0 0 0-0	Z	0	—
512	HUMILIATION	T	6 5R	10	0 0 0-0	Z	0	—
513	HUMILITY	T	1 2R	10	0 0 0-0	Z	0	—
516	HUNTER	T	5 10	10	0 0 0-0	Z	0	—
520	IDEA	H	3 8	10	0 0 0-0	Z	0	—
524	IMMUNITY	T	2 4A	10	0 0 0-0	Z	0	—
525	IMPATIENCE	T	3 3A	10	0 0 0-0	Z	0	—
527	IMPORTANCE	H	6 7	10	0 0 0-0	Z	0	—
531	IMPRESSION	T	2 1A	10	0 0 0-0	Z	0	—
537	INDICATION	T	1 14	10	0 0 0-0	Z	0	—
539	INDIFFERENCE	T	2 1R	10	0 0 0-0	Z	0	—
540	INDIGNITY	T	1 3B	10	0 0 0-0	Z	0	—
542	INLET	H	3 5R	10	0 0 0-0	Z	0	—
543	INN	T	3 5A	10	0 0 0-0	Z	0	—
544	INQUIRY	H	7 18	10	0 0 0-0	Z	0	—
546	INSPECTOR	T	1 19	10	0 0 0-0	Z	0	—
549	INSURANCE	T	4 9	10	0 0 0-0	Z	0	—
550	INTEGRATION	T	2 9	10	0 0 0-0	Z	0	—
554	ISLAND	H	1 6	10	0 0 0-0	Z	0	—
560	JANITOR	T	—	10	0 0 0-0	Z	0	—
567	JUNCTION	T	—	10	0 0 0-0	Z	0	—
568	JUNGLE	—	—	10	0 0 0-0	Z	0	—
569	JURY	—	—	10	0 0 0-0	Z	0	—

WORD #	WORD	SMPL	O TH	N	MGF VECTOR N V A OT	GR TYPE	SM CO	DATA IN CH
573	KINDERGARTEN	T	3 10	10	0 0 0-0	Z	0	—
5?	KITCHEN	H	1 2A	10	0 0 0-0	Z	0	—
	KNOWLEDGE	T	3 2A	10	0 0 0-0	Z	0	—
581	LADY	H	1 1B	10	0 0 0-0	Z	0	—
582	LAIR	T	4 8	10	0 0 0-0	Z	0	—
585	LANGUAGE	H	1 2A	10	0 0 0-0	Z	0	—
586	LANTERN	T	1 4B	10	0 0 0-0	Z	0	—
591	LAUGHTER	H	3 3A	10	0 0 0-0	Z	0	—
592	LAW	H	1 1A	10	0 0 0-0	Z	0	—
595	LEADER	T,H	7 7	10	0 0 0-0	Z	0	—
596	LEADERSHIP	H	7 7	10	0 0 0-0	Z	0	—
603	LEGISLATION	T	1 1A	10	0 0 0-0	Z	0	—
605	LENGTH	H	1 10	10	0 0 0-0	Z	0	—
606	LESSON	T	1 2R	10	0 0 0-0	Z	0	—
611	LIBRARY	T	1 1A	10	0 0 0-0	Z	0	—
614	LIFE	H	3 6	10	0 0 0-0	Z	0	—
617	LIGHTHOUSE	T	4 4B	10	0 0 0-0	Z	0	—
621	LIMITATION	H	1 1B	10	0 0 0-0	Z	0	—
625	LION	T	2 10	10	0 0 0-0	Z	0	—
632	LOBSTER	T	1 1R	10	0 0 0-0	Z	0	—
639	LOSS	H	5 9	10	0 0 0-0	Z	0	—
642	LOVER	T	7 7	10	0 0 0-0	Z	0	—
649	MAGGOT	T	3 3A	10	0 0 0-0	Z	0	—
650	MAGNET	H	1 1R	10	0 0 0-0	Z	0	—
653	MAJORITY	T	4 4B	10	0 0 0-0	Z	0	—
657	MANNER	T	2 7A	10	0 0 0-0	Z	0	—
660	MAPLE	H	7 3A	10	0 0 0-0	Z	0	—
664	MARRIAGE	T	9 9	10	0 0 0-0	Z	0	—
666	MART	H	1 2A	10	0 0 0-0	Z	0	—
671	MEAL	H	1 1B	10	0 0 0-0	Z	0	—
673	MEAT	H	1 2B	10	0 0 0-0	Z	0	—
675	MEDICINE	H	2 2A	10	0 0 0-0	Z	0	—
679	MEMORY	H	1 2A	10	0 0 0-0	Z	0	—
682	MESSAGE	T	6 10	10	0 0 0-0	Z	0	—
684	METAPHOR	H	3 3A	10	0 0 0-0	Z	0	—
685	METHOD	T	2 7	10	0 0 0-0	Z	0	—
686	MICROSCOPE	H	1 1A	10	0 0 0-0	Z	0	—
688	MILE	H	6 14	10	0 0 0-0	Z	0	—
697	MISSILE	T	1 1R	10	0 0 0-0	Z	0	—
704	MOMENT	H	3 1A	10	0 0 0-0	Z	0	—
705	MONEY	H	1 4B	10	0 0 0-0	Z	0	—
707	MONSTER	H	1 1A	10	0 0 0-0	Z	0	—
708	MONTH	H	1 1A	10	0 0 0-0	Z	0	—
710	MORNING	H	1 1A	10	0 0 0-0	Z	0	—
714	MOUNTAIN	H	2 2A	10	0 0 0-0	Z	0	—
716	MOVEMENT	H	3 3A	10	0 0 0-0	Z	0	—
717	MUD	H	2 2B	10	0 0 0-0	Z	0	—
718	MURDERER	T	7 5A	10	0 0 0-0	Z	0	—
720	MUSIC	H	1 1B	10	0 0 0-0	Z	0	—
721	MUTTON	T	5 5R	10	0 0 0-0	Z	0	—

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WORD #	WORD	SMPL	D TH	MGF VECTOR N	V	A OT	GR. TYPE	SM CO	DATA IN CH.
725	NATION	I	13	10	0	0	0-0	Z	C	—
727	NATURE	I	18	10	0	0	0-0	Z	O	—
731	NEGLIGENCE	T	4B	10	0	0	0-0	Z	O	—
73?	NEGOTIATION	T	7	10	0	0	0-0	Z	O	—
7?6	NICKEL	I	4B	10	0	0	0-0	Z	O	—
744	NOTION	I	3B	10	0	0	0-0	Z	O	—
745	NOUN	T	10	10	0	0	0-0	Z	O	—
748	NUISANCE	I	4A	10	0	0	0-0	Z	O	—
752	OBEDIENCE	I	4A	10	0	0	0-0	Z	O	—
740	OFFICE	I	18	10	0	0	0-0	Z	O	—
746	OPERATION	I	29	10	0	0	0-0	Z	O	—
746	OPINION	I	2A	10	0	0	0-0	Z	O	—
767	OPPORTUNITY	I	2B	10	0	0	0-0	Z	O	—
768	ORCHESTRA	I	58	10	0	0	0-0	Z	O	—
770	ORE	T	10	00	0	0	0-0	Z	O	—
774	OUTLET	I	4B	10	0	0	0-0	Z	O	3
776	OVEN	T	3B	10	0	0	0-0	Z	O	—
778	OWNER	I	2B	00	0	0	0-0	Z	O	—
780	OXIDATION	I	3A	10	0	0	0-0	Z	O	—
788	PARADISE	I	7A	10	0	0	0-0	Z	O	—
790	PARENT	I	18	10	0	0	0-0	Z	O	—
794	PATH	I	38	10	0	0	0-0	Z	O	—
801	PAYMENT	I	18	10	0	0	0-0	Z	O	—
802	PEACE	I	4A	10	0	0	0-0	Z	O	—
804	PEASANT	I	28	10	0	0	0-0	Z	O	—
806	PENNY	I	28	10	0	0	0-0	Z	O	—
810	PERIOD	I	1A	10	0	0	0-0	Z	O	—
813	PERSON	T	7	10	0	0	0-0	Z	O	—
815	PERSONALITY	I	4A	10	0	0	0-0	Z	O	—
816	PHILOSOPHY	I	18	10	0	0	0-0	Z	O	—
817	PHYSIOLOGY	I	58	10	0	0	0-0	Z	O	—
923	PINEAPPLE	T	10	10	0	0	0-0	Z	O	—
822	PLATFORM	I	4A	10	0	0	0-0	Z	O	—
823	PLEASURE	I	18	10	0	0	0-0	Z	O	—
834	PCO?	I	3A	10	0	0	0-0	Z	O	—
835	POEM	T	38	10	0	0	0-0	Z	O	—
840	POLICY	I	8	10	0	0	0-0	Z	O	—
842	POLITICIAN	I	28	10	0	0	0-0	Z	O	—
843	POLITICS	T	7A	00	0	0	0-0	Z	O	—
865	POPULATION	I	28	10	0	0	0-0	Z	O	—
866	PORTRAIT	T	5A	10	0	0	0-0	Z	O	—
847	POSSIBILITY	I	7B	10	0	0	0-0	Z	O	—
852	POVERTY	I	2A	10	0	0	0-0	Z	O	—
857	PRAYER	I	2A	10	0	0	0-0	Z	O	—
865	PRESIDENT	I	18	10	0	0	0-0	Z	O	—
872	PRIEST	T	7A	10	0	0	0-0	Z	O	—
874	PRINCE	I	3A	10	0	0	0-0	T,M	O	—
878	PROBLEM	I	18	10	0	0	0-0	Z	O	—
880	PROCESSION	I	4B	10	0	0	0-0	Z	O	—
885	PROLOGUE	T	9	10	0	0	0-0	Z	O	—

WORD #	WORD	SMPL	D TH	MGF VECTOR N	V	A OT	GR. TYPE	SM CO	DATA IN CH.
890	PROPOSAL	I	7	10	0	0	0-0	Z	O	—
894	PROW	T	10	10	0	0	0-0	Z	O	—
907	QUALIFICATION	T	3	10	0	0	0-0	Z	O	—
912	RAINFALL	T	8	10	0	0	0-0	Z	O	—
925	RELAXATION	I	10	10	0	0	0-0	Z	O	—
927	REPORTER	I	2	10	0	0	0-0	Z	O	—
934	RESPONSIBILITY	X	7	10	0	0	0-0	Z	O	—
939	RETIREMENT	I	8	10	0	0	0-0	Z	O	—
947	RIVER	I	1A	10	0	0	0-0	Z	O	—
949	ROAD	I	1A	10	0	0	0-0	Z	O	—
950	ROLE	I	2	10	0	0	0-0	Z	O	—
951	ROTATION	I	7	10	0	0	0-0	Z	O	—
955	SAUCER	I	6	10	0	0	0-0	Z	O	—
963	SECRETARY	I	38	10	0	0	0-0	Z	O	—
976	SECURITY	I	58	10	0	0	0-0	Z	O	—
978	SEIZURE	I	8	10	0	0	0-0	Z	O	—
983	SEPE?	T	4	10	0	0	0-0	Z	O	—
988	SERVANT	I	2A	10	0	0	0-0	Z	O	—
990	SESSION	I	3	10	0	0	0-0	Z	O	—
991	SHEEN	T	6	10	0	0	0-0	Z	O	—
996	SHEEP	I	10	10	0	0	0-0	Z	O	—
997	SHELF (SHELVES)	<TH	48	10	0	0	0-0	Z	O	—
998	SICKNESS	T	3A	10	0	0	0-0	Z	O	—
1014	SIGNIFICANCE	T	7	10	0	0	0-0	Z	O	—
1017	SIREN	T	8	10	0	0	0-0	Z	O	—
1019	SISTER	I	1A	10	0	0	0-0	Z	O	—
1020	SITUATION	I	3	10	0	0	0-0	Z	O	—
1022	SKY	I	4A	10	0	0	0-0	Z	O	—
1024	SOLUTION	I	18	10	0	0	0-0	Z	O	—
1041	SPEECH	I	58	10	0	0	0-0	Z	O	—
1054	STATEMENT	I	2A	10	0	0	0-0	Z	O	—
1072	STATUS	I	4A	10	0	0	0-0	Z	O	—
1072	STIMULANT	I	11	10	0	0	0-0	Z	O	—
1076	STORY	I	1A	10	0	0	0-0	Z	O	—
1082	STREET	I	1A	10	0	0	0-0	Z	O	—
1086	STRENGTH	I	18	10	0	0	0-0	Z	O	—
1087	STUDENT	I	28	10	0	0	0-0	Z	O	—
1092	SUCCESS	I	7A	10	0	0	0-0	Z	O	—
1096	SUGGESTION	I	6	10	0	0	0-0	Z	O	—
1100	SUITOR	T	7	10	0	0	0-0	Z	O	—
1102	SYRUP	I	6	10	0	0	0-0	Z	O	—
1113	WASHER	I	3	10	0	0	0-0	Z	O	—
1216	TEACHER	I	18	10	0	0	0-0	Z	O	—
1123	TEMPTATION	I	4R	10	0	0	0-0	Z	O	—
1126	TENEMENT	I	7	10	0	0	0-0	Z	O	—
1127	THIEF	T	3A	10	0	0	0-0	Z	O	—
1132	TIGER	I	4B	10	0	0	0-0	Z	O	—
1139	TOMBSTONE	T	2	10	0	0	0-0	Z	O	—
1144	TOOTHPICK	T	9	10	0	0	0-0	Z	O	—

UNAMBIGUOUS NOUNS

WORD #	WORD	SMPL T,M	D TH	MSG VECTOR N V A RT	VECTOR TYPE CD	GR. SM DATA IN CH.
1147	TOPIC	T	7 5A	10 0 0 0-0	Z	0 -
1151	TOWN	T	1 1A	10 0 0 0-0	Z	0 -
1155	TRANSFORMATION	T	4 6	10 0 0 0-0	Z	0 -
1157	TRAY	T	4 2A	10 0 0 0-0	Z	0 -
1161	TRIBE	T	1 1R	10 0 0 0-0	Z	0 -
1167	TRUTH	T	6 10	10 0 0 0-0	Z	0 -
1169	TUNIC	T	1 1R	10 0 0 0-0	Z	0 -
1170	TURPENTINE	T	1 1R	10 0 0 0-0	Z	0 -
1174	UNCLE	T	3 3A	10 0 0 0-0	Z	0 3
1183	UNION	T	6 5A	10 0 0 0-0	Z	0 -
1185	UNIVERSITY	T	1 1R	10 0 0 0-0	Z	0 -
1196	VALOR	T	6 6	10 0 0 0-0	Z	0 -
1201	VILLAGE	T	2 5A	10 0 0 0-0	Z	0 -
1202	VINEYARD	T	1 2A	10 0 0 0-0	Z	0 -
1203	VINTAGE	T	1 1A	10 0 0 0-0	Z	0 -
1206	VIOLIN	T	1 1A	10 0 0 0-0	Z	0 -
1221	WEALTH	T	7 1R	10 0 0 0-0	Z	0 -
1222	WEAPON	T	7 1	10 0 0 0-0	Z	0 -
1226	WEEK	T	3 4R	10 0 0 0-0	Z	0 -
1228	WIFE	T	1 3R	10 0 0 0-0	Z	0 -
1232	WINDOW	T	1 1A	10 0 0 0-0	Z	0 -
1236	WISE	T	7 1A	10 0 0 0-0	Z	0 -
1238	WOMAN	T	1 1	10 0 0 0-0	Z	0 -
1240	WOODLAND	T	4 4R	10 0 0 0-0	Z	0 -
1242	WORKER	T	3 3R	10 0 0 0-0	Z	0 -
1243	WORLD	T	1 1A	10 0 0 0-0	Z	0 -
1249	YEAR	T	1 1A	10 0 0 0-0	Z	0 -
1251	YOLK	T	7 10	10 0 0 0-0	Z	0 -
1252	YOUTH	T	3 2A	10 0 0 0-0	Z	0 -
1255	ZINC	T	3 7	10 0 0 0-0	Z	0 -

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UNAMBIGUOUS VERBS

WORD #	WORD	SMPL	D TH	MSF VECTOR N V A DT	TYPE	GR SM DATA IN CH
3	ABOLISH	T	5A	0 0 10 0-0	>	C	
7	ACCEPT	H	7A	0 0 10 0-0	>	0	
9	ACCOMPLISH	T	7A	0 0 10 0-0	>	0	
12	ACCUMULATE	H	8	0 0 10 0-0	>	0	
17	ACHIEVE	T	4A	0 0 10 0-0	>	0	
23	ADJUST	H	4A	0 0 10 0-0	>	0	
25	ADORE	T	4A	0 0 10 0-0	>	0	
33	AFFORD	H	7	0 0 20 0-0	>	0	
40	AGGRAVATE	H	1B	0 0 10 0-0	>	0	
47	AGREE	T	2A	0 0 10 0-0	>	0	
51	ALLOW	H	1B	0 0 20 0-0	>	0	
67	ANTICIPATE	T	1A	0 0 10 0-0	>	0	
70	APPEAR	T.H	6	0 0 10 0-0	>	0	
71	APPLAUD	H	2A	0 0 10 0-0	>	0	
71	APPLY	T.H	5B	0 0 10 0-0	>	0	
76	ARGUE	T	2B	0 0 10 0-0	>	0	
76	ARISE	H	2B	0 0 10 0-0	>	0	
82	ARRANGE	T	1A	0 0 10 0-0	>	0	
92	ARRIVE	T	1A	0 0 10 0-0	>	0	
85	ASK	H	3B	0 0 10 0-0	>	0	3
92	ASSUME	T	1A	0 0 10 0-0	>	0	
95	ATTEND	H	6	0 0 10 0-0	>	0	
105	AVOID	T.H	10	0 0 10 0-0	>	0	
120	BASK	T	1A	0 0 10 0-0	>	0	
121	BE	H	1A	0 0 10 0-0	>	0	
129	BEGIN	T	1A	0 0 10 0-0	>	0	
131	BELIEVE	H	1B	0 0 10 0-0	>	0	
132	BELONG	T	7	0 0 10 0-0	>	0	
135	BEREAVE	H	6	0 0 10 0-0	>	0	
142	BITE	T	1A	0 0 10 0-0	>	0	
160	BRING	H	2	0 0 10 0-0	>	0	
194	CARRY	H	10	0 0 20 0-0	>	0	
204	CERTIFY	T	1B	0 0 10 0-0	>	0	
218	CHOOSE	H	3B	0 0 10 0-0	>	0	
220	CIRCULATE	T	1B	0 0 10 0-0	>	0	
247	CONDEMN	H	5A	0 0 10 0-0	>	0	
246	CONFRONT	T	2B	0 0 10 0-0	>	0	
266	CONFUSE	H	2A	0 0 10 0-0	>	0	
249	CONSIST	T	7A	0 0 10 0-0	>	0	
252	CONSIDER	H	6A	0 0 10 0-0	>	0	
253	CONSTITUTE	T	2B	0 0 10 0-0	>	0	
254	CONTINUE	H	3B	0 0 10 0-0	>	0	
259	CONVINCE	T	5	0 0 10 0-0	>	0	
273	CREATE	H	10	0 0 10 0-0	>	0	
277	CUDDLE	T	1B	0 0 10 0-0	>	0	
290	DECIDE	H	3A	0 0 10 0-0	>	0	
299	DEMOLISH	T	2A	0 0 10 0-0	>	0	
305	DESTROY	H					
306	DEVELOP	T					
308	DEVOTE	H					

WORD #	WORD	SMPL	D TH	MSF VECTOR N V A DT	TYPE	GR SM DATA IN CH
319	DISCUSS	H	4A	0 0 10 0-0	>	C	
323	DISTRIBUTE	T	5A	0 0 10 0-0	>	C	3
348	EDUCATE	H	8	0 0 10 0-0	>	C	
354	EMBROIDER	T	5B	0 0 10 0-0	>	C	
355	EMIT	H	9	0 0 10 0-0	>	C	
358	ENCIRCLE	T	9	0 0 10 0-0	>	C	
361	ENJOY	H	1B	0 0 10 0-0	>	C	3
362	ENLIVEN	T	4A	0 0 10 0-0	>	C	
363	ENRAGE	H	6	0 0 10 0-0	>	C	
364	ENTER	T.H	1B	0 0 10 0-0	>	C	
372	ESTRANGE	H	10	0 0 10 0-0	>	C	3
378	EXCITE	T	3A	0 0 10 0-0	>	C	
380	EXIST	H	4A	0 0 10 0-0	>	C	
382	EXPLAIN	T.H	2A	0 0 10 0-0	>	C	3
388	FACILITATE	T	10	0 0 10 0-0	>	C	
408	FOUND	H	1A	0 0 10 0-0	>	C	
463	GRAB	T	8	0 0 10 0-0	>	C	
467	GRATIFY	H	7	0 0 10 0-0	>	C	
475	GROW	T	1A	0 0 10 0-0	>	C	
480	HALLOW	H	5A	0 0 10 0-0	>	C	
483	HAPPEN	T	1B	0 0 10 0-0	>	C	
490	HEAR	H	1A	0 0 10 0-0	>	C	
497	HEIGHTEN	T	5A	0 0 10 0-0	>	C	
522	ILLUSTRATE	H	2B	0 0 10 0-0	>	C	
526	IMPEDE	T	6	0 0 10 0-0	>	C	
532	IMPROVE	H	2A	0 0 10 0-0	>	C	
533	IMPUTE	T	3A	0 0 10 0-0	>	C	
535	INCLUDE	H	2A	0 0 10 0-0	>	C	
545	INSIST	T	1B	0 0 10 0-0	>	C	
554	INVITE	H	8	0 0 10 0-0	>	C	
564	JOIN	T	1A	0 0 10 0-0	>	C	
575	KNEAD	H	1A	0 0 10 0-0	>	C	
578	KNOW	T	7	0 0 10 0-0	>	C	
598	LEARN	H	1B	0 0 10 0-0	>	C	
619	LIKEN	T	10	0 0 10 0-0	>	C	
624	LISTEN	H	5A	0 0 10 0-0	>	C	
638	LOSE	T	2B	0 0 10 0-0	>	C	
645	MADDEN	H	2A	0 0 10 0-0	>	C	
651	MAINTAIN	T	3A	0 0 10 0-0	>	C	
656	MANAGE	H	2A	0 0 10 0-0	>	C	
665	MARRY	T	5B	0 0 10 0-0	>	C	
676	MEDITATE	H	3B	0 0 10 0-0	>	C	
691	MINGLE	T	6	0 0 10 0-0	>	C	
702	MOISTEN	H	7	0 0 10 0-0	>	C	
703	MOLEST	T	1B	0 0 10 0-0	>	C	
751	NURTURE	H	2A	0 0 10 0-0	>	C	
755	OBSERVE	T	2A	0 0 10 0-0	>	C	
756	OCCUR	H	5B	0 0 10 0-0	>	C	
764	OPERATE	T	4A	0 0 10 0-0	>	C	3
771	ORGANIZE					

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UNAMBIGUOUS VERBS

WORD #	WORD	SMPL	C TH	\multicolumn{4}{c}{MGE VECTOR}	GR. TYPE	SM CO	DATA IN CH.
				N	V	A	OT			
747	PARALYZE	T	9 7	0	1	0	0-0	>	0		
783	PARTICIPATE	H	2A	0	1	0	0-0	>	0	
854	PRAY	T	7	0	1	0	0-0	>	0	
858	PREDICT	T	2A	0	1	0	0-0	>	0	m
859	PREFER	T	1B	0	1	0	0-0	>	0	
861	PREPARE	H	4A	0	1	0	0-0	>	0	
867	PRESCRIBE	T	8B	0	1	0	0-0	>	0	
869	PRETEND	T	2A	0	1	0	0-0	>	0	
869	PREVENT	T	1B	0	1	0	0-0	>	0	
887	PROMOTE	T	2A	0	1	0	0-0	>	0	
877	PROTECT	T	1B	0	1	0	0-0	>	0	
893	PROVE	T	1A	0	1	0	0-0	>	0	
915	REACT	T	3B	0	1	0	0-0	>	0	m
916	READ	T	3A	0	1	0	0-0	>	0	
920	RECOMMEND	T	1A	0	1	0	0-0	>	0	m
924	RELATE	T,H	4A	0	1	0	0-0	>	0	
929	REMEMBER	T	5A	0	1	0	0-0	>	0	m
930	REMIND	T	1B	0	1	0	0-0	>	0	
932	RENOUNCE	T	1A	0	1	0	0-0	>	0	m
935	REPRESS	H	1A	0	1	0	0-0	>	0	
981	SEEK	T	1A	0	1	0	0-0	>	0	
982	SEEM	T	4B	0	1	0	0-0	>	0	
985	SEND	T	9	0	1	0	0-0	>	0	m
993	SETTLE	T	1B	0	1	0	0-0	>	0	
995	SHATTER	H	1A	0	1	0	0-0	>	0	
999	SHELVE	T	2A	0	1	0	0-0	>	0	
1011	SHRUNK	T	3B	0	1	0	0-0	>	0	
1012	SHUT	T	1B	0	1	0	0-0	>	0	
1021	SIT	T	1A	0	1	0	0-0	>	0	
1032	SMUGGLE	T	2A	0	1	0	0-0	>	0	m
1037	SOFTEN	T	1B	0	1	0	0-0	>	0	
1042	SOLVE	T	3B	0	1	0	0-0	>	0	
1051	SPEAK	T	1B	0	1	0	0-0	>	0	
1056	SPEND	T	2A	0	1	0	0-0	>	0	
1095	SUCCEED	T	1B	0	1	0	0-0	>	0	
1098	SUFFER	T	3A	0	1	0	0-0	>	0	
1099	SUGGEST	T	1A	0	1	0	0-0	>	0	
1177	TEACH	T	1A	0	1	0	0-0	>	0	
1125	TELL	T	1B	0	1	0	0-0	>	0	
1131	THINK	T	1B	0	1	0	0-0	>	0	
1180	UNDERSTAND	T	1B	0	1	0	0-0	>	0	
1184	UNITE	T	1A	0	1	0	0-0	>	0	
1186	UNLOAD	T	1A	0	1	0	0-0	>	0	
1169	UNTIE	T	7	0	1	0	0-0	>	0	
1194	UTILIZE	T	6	0	1	0	0-0	>	0	
1220	WEAKEN	T	1A	0	1	0	0-0	>	0	
1246	WRING	T	6B	0	1	0	0-0	>	0	m

UNAMBIGUOUS ADJECTIVES

WORD #	WORD	SMPL	O	TH	N	V	A	OT	GR. TYPE	SM CO	DATA IN CH.
7	ABLE	H	5	1A	0	0	10	0-0	A	C	3
6	ABSURD	H	5	6A	0	0	10	0-0	A	C	
19	ACTUAL	H	5	2R	0	0	10	0-0	A	C	
22	ADEQUATE	H	5	8	0	0	10	0-0	A	C	3
27	AFRAID	H	1	1R	0	0	10	0-0	A	C	
41	AGGRESSIVE	H	1	4B	0	0	10	0-0	A	C	
44	AGRICULTURAL	H	1	4B	0	0	10	0-0	A	C	
50	ALIVE	H	1	2A	0	0	10	0-0	A	C	
52	ALONE	H	1	1A	0	0	10	0-0	A	C	
59	ANGRY	H	3	2A	0	0	10	0-0	A	C	
64	ANXIOUS	H	3	2B	0	0	10	0-0	A	C	
66	APPARENT	H	4	4B	0	0	10	0-0	A	C	
102	AVAILABLE	T,H	1	4B	0	0	10	0-0	A	C	
104	AVERSE	H	5	5B	0	0	10	0-0	A	C	
106	AWARE	H	1	5B	0	0	10	0-0	A	C	
107	AWFUL	H	1	2B	0	0	10	0-0	A	C	
126	BEASTLY	H	1	8	0	0	10	0-0	A	C	
128	BEAUTIFUL	H	1	1A	0	0	10	0-0	A	C	
133	BELOVED	H	1	3B	0	0	10	0-0	A	C	
141	BIG	H	1	1A	0	0	10	0-0	A	C	
157	BONNY	H	7	10	0	0	10	0-0	A	C	
163	BOUNTIFUL	H	6	10	0	0	10	0-0	A	C	3
170	BRISK	H	5	5A	0	0	10	0-0	A	C	
185	CAPRICIOUS	H	1	8	0	0	10	0-0	A	C	
215	CHILLY	H	5	6	0	0	10	0-0	A	C	
273	CIVIC	T	3	5	0	0	10	0-0	A	C	
268	COURAGEOUS	H	1	6	0	0	10	0-0	A	C	
277	CRAFTY	H	1	8	0	0	10	0-0	A	C	3
286	DEAD	H	1	1A	0	0	10	0-0	A	C	
364	DESPERATE	H	5	4A	0	0	10	0-0	A	C	3
371	DIFFICULT	H	5	2A	0	0	10	0-0	A	C	
374	DINGY	H	5	9	0	0	10	0-0	A	C	3
363	DURABLE	H	7	7	0	0	10	0-0	A	C	
366	EDUCATIONAL	H	1	1B	0	0	10	0-0	A	C	
	ENTIRE	H	1	1A	0	0	10	0-0	A	C	
375	EVERY	H	1	7	0	0	10	0-0	A	C	
376	EVERYDAY	H	3	6	0	0	10	0-0	A	C	
395	FAMISHED	H	3	5	0	0	10	0-0	A	C	
405	FINANCIAL	H	1	2A	0	0	10	0-0	A	C	
422	FLUENT	H	5	8	0	0	10	0-0	A	C	
432	FOREIGN	H	1	1A	0	0	10	0-0	A	C	3
447	FRAGILE	H	5	7	0	0	10	0-0	A	C	
450	GEOGRAPHICAL	H	5	1A	0	0	10	0-0	A	C	
	GLAD	H	1	1B	0	0	10	0-0	A	C	
486	HAPPY	H	1	7	0	0	10	0-0	A	C	3
495	HARMONIOUS	H	3	7	0	0	10	0-0	A	C	
	HONEST	T,H	1	2A	0	0	10	0-0	A	C	
521	IDENTICAL	H	7	7	0	0	10	0-0	A	C	3
523	IMMEDIATE	T,H	2	1A	0	0	10	0-0	A	C	
528	IMPORTANT	H	1	1A	0	0	10	0-0	A	C	

WORD #	WORD	SMPL	O	TH	N	V	A	OT	GR. TYPE	SM CO	DATA IN CH.
529	IMPOSSIBLE	H	1	2R	0	0	10	0-0	A	O	3
547	LARGE	H	1	1A	0	0	10	0-0	A	O	
589	LATE	H	1	1A	0	0	10	0-0	A	O	
590	LATER	H	2	2A	0	0	10	0-0	A	O	
604	LEGISLATIVE	H	1	2A	0	0	10	0-0	A	O	
627	LITTLE	H	1	1A	0	0	10	0-0	A	O	
629	LIVELY	H	1	3A	0	0	10	0-0	A	O	
634	LONESOME	H	5	5A	0	0	10	0-0	A	O	
647	MAD	H	1	2A	0	0	10	0-0	A	O	
674	MEDICAL	H	1	5B	0	0	10	0-0	A	O	
680	MENTAL	H	1	7	0	0	10	0-0	A	O	
683	METALLIC	H	5	8	0	0	10	0-0	A	O	
695	MIRTHFUL	H	7	17	0	0	10	0-0	A	O	
705	MONETARY	H	5	4R	0	0	10	0-0	A	O	
722	MUTUAL	H	2	4A	0	0	10	0-0	A	O	
724	NAMELESS	H	7	4B	0	0	10	0-0	A	O	
734	NERVOUS	H	1	5B	0	0	10	0-0	A	O	
737	NIMBLE	H	5	17	0	0	10	0-0	A	O	
747	NUCLEAR	H	3	2A	0	0	10	0-0	A	O	
749	NUMEROUS	H	7	6	0	0	10	0-0	A	O	
757	ODIOUS	H	1	1A	0	0	10	0-0	A	O	
763	OLD	T	1	1A	0	0	10	0-0	A	O	
803	PEACEFUL	H	5	8	0	0	10	0-0	A	O	3
812	PERSISTENT	H	1	1R	0	0	10	0-0	A	O	
831	PLEASANT	H	4	4B	0	0	10	0-0	A	O	3
841	POLITICAL	H	1	1B	0	0	10	0-0	A	O	3
849	POSSIBLE	H	3	3A	0	0	10	0-0	A	O	
854	PRACTICAL	H	7	7	0	0	10	0-0	A	O	
860	PREGNANT	H	4	4A	0	0	10	0-0	A	O	
870	PREVIOUS	H	2	2B	0	0	10	0-0	A	O	
877	PROBABLE	H	9	9	0	0	10	0-0	A	O	
884	PROLIFIC	H	1	1R	0	0	10	0-0	A	O	
890	PROPER	H	10	10	0	0	10	0-0	A	O	
909	RACIAL	H	4	4A	0	0	10	0-0	A	O	
913	RAINY	H	1	1A	0	0	10	0-0	A	O	
917	READY	H	1	1B	0	0	10	0-0	A	O	
918	REAL	T	1	1A	0	0	10	0-0	A	O	
927	RECTANGULAR	H	3	6	0	0	10	0-0	A	O	
928	RELIABLE	H	5	5B	0	0	10	0-0	A	O	
938	RESPECTFUL	H	9	7	0	0	10	0-0	A	O	
967	SANE	H	2	2R	0	0	10	0-0	A	O	
969	SCIENTIFIC	H	1	1R	0	0	10	0-0	A	O	
989	SERIOUS	H	1	1R	0	0	10	0-0	A	O	
1013	SICK	T	1	1A	0	0	10	0-0	A	O	
1018	SIMILAR	H	1	1A	0	0	10	0-0	A	O	
1030	SMALL	H	1	2A	0	0	10	0-0	A	O	
1040	SOLUBLE	T,H	1	7A	0	0	10	0-0	A	O	
1043	SORDID	H	7	7A	0	0	10	0-0	A	O	
1045	SORRY	H	1	2A	0	0	10	0-0	A	O	
1050	SPARSE	H	1	10	0	0	10	0-0	A	O	

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UNAMBIGUOUS ADJECTIVES

WORD #	WORD	SMBL	C TH	N	V	A OT	TYPE	TYPE	CO	SM	DATA IN CH.
1087	STRANGE (-ER)	CTH	1 18	0	0	0-0	A	0	-
1089	STRONG	T.H	1 16	0	0	0-0	A	0	-
1097	SUDDEN	H	1 18	0	0	0-0	A	0	-
1125	SUNNY	T	1 38	0	0	0-0	A	0	-
1133	SUSCEPTIBLE	T	1 9	0	0	0-0	A	0	-
1142	TINY	T	1 28	0	0	0-0	A	0	-
1158	TREACHEROUS	T	1 5A	0	0	0-0	A	0	-
1165	TRUE	H	1 18	0	0	0-0	A	0	-
1173	TYRANNICAL	T.H	1 10	0	0	0-0	A	0	-
1175	UNABLE	T	1 5A	0	0	0-0	A	0	3
1177	UNCONSCIOUS	T	1 48	0	0	0-0	A	0	-
1179	UNCTUOUS	T	1 10	0	0	0-0	A	0	-
1181	UNDISTURBED	T	1 59	0	0	0-0	A	0	-
1187	UNPLEASANT	T	1 4A	0	0	0-0	A	0	-
1189	UNRULY	H	1 4A	0	0	0-0	A	0	-
1191	UNUSUAL	T	1 2A	0	0	0-0	A	0	-
1195	UTMOST	T.H	1 10A	0	0	0-0	A	0	-
1199	VARIOUS	T	1 9	0	0	0-0	A	0	-
1227	WIDE	H	1 18	0	0	0-0	A	0	-
1234	WIRY	J		0	0	0-0	A	0	-
1239	WONDERFUL			0	0	0-0	A	0	-

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NOUN-VERB WORDS

Left column

WORD #	WORD	SMPL	O	TH	N	V	A QT	TYPE	GP SM	CO	DATA IN CH.
11	ACCOUNT	H	1	1A	9	9	0-0	N,V	1	1	
14	ACKNOWLEDGE	H	4	4A	-1	1	0-0	N,V	1	1	4
15	ACT	H	2	1B	3	3	0-0	N,V	2	2	
21	ADDRESS	H	5	2A	7	5	0-0	N,V	1	1	
26	ADVANCE	H	1	3A	0	0	0-0	N,V	1	1	4,5
31	AFFECT	T,H	1	1B	1	1	0-0	N,V	1	1	
36	AGE	H	1	2A	2	2	0-0	N,V	1	1	
45	AID	H	1	2A	7	7	0-0	N,V	1	1	
46	AIM	H	1	1A	0	0	0-0	N,V	1	1	
47	AIR	H	1	1B	2	2	0-0	N,V	2	2	
56	AMOUNT	H	1	2A	4	4	0-0	N,V	1	1	4
57	ANCHOR	H	2	3B	7	7	0-0	N,V	1	1	
58	ANGER	H	1	3A	1	1	0-0	N,V	1	1	
61	ANSWER	H	3	2A	4	4	0-0	N,V	1	1	
67	APPEAL	H	2	2A	5	5	0-0	N,V	1	1	4,5
77	APPROACH	H	1	1A	7	7	0-0	N,V	1	1	
77	ARM	H	1	1A	2	2	0-0	N,V	1	1	
81	ARREST	H	3	3B	6	6	0-0	N,V	1	1	4
80	ASSOCIATE	H	3	2B	7	7	0-0	N,V	1	1	
93	ATTACK	H	2	2A	3	3	0-0	N,V	1	1	
96	ATTEMPT	H	6	4B	9	9	0-0	N,V	1	1	3,4
97	ATTIRE	T,H	3	2A	0	0	0-0	N,V	1	1	
111	BADGER	T,H	1	2A	7	7	0-0	N,V	3	3	3,4
112	BALANCE	H	1	2B	4	4	0-0	N,V	1	1	
116	BAND	H	3	1A	6	6	0-0	N,V	1	1	
116	BANK	H	1	1A	0	0	0-0	N,V	1	1	
118	BAR	H	1	2A	9	9	0-0	N,V	1	1	
127	BEACH	H	1	2B	7	7	0-0	N,V	1	1	4
123	BEAR	H	2	1A	5	5	0-0	N,V	1	1	
134	BENEFIT	H	3	2B	7	7	0-0	N,V	1	1	
139	BIAS	H	1	2A	4	4	0-0	N,V	1	1	
142	BILL	H	1	1A	2	2	0-0	N,V	1	1	
143	BIRD	H	1	1A	7	7	0-0	N,V	1	1	
144	BIT	H	1	7	1	1	0-0	N,V	1	1	
152	BITE	H	1	1A	1	1	0-0	N,V	1	1	
149	BLOCK	H	1	1A	0	0	0-0	N,V	1	1	4,5
160	BLOSSOM	H	2	2A	9	9	0-0	N,V	1	1	
150	BLOUSE	H	3	2A	0	0	0-0	N,V	1	1	
152	BLOW	H	1	7	2	2	0-0	N,V	1	1	
153	BOARD	H	1	1A	7	7	0-0	N,V	1	1	
154	BODY	H	1	2A	6	6	0-0	N,V	1	1	
156	BONE	H	1	1A	2	2	0-0	N,V	1	1	7,5
153	BOOK	H	1	1A	0	0	0-0	N,V	1	1	4,5
174	BORE	H	1	1A	7	7	0-0	N,V	1	1	
162	BOTHER	H	4	4B	1	1	0-0	N,V	1	1	
165	BRACE	H	1	1B	0	0	0-0	N,V	1	1	4,5
166	BREAK	H	1	1A	3	3	0-0	N,V	1	1	
168	BRIDGE	H	1	1R	1	1	0-0	N,V	1	1	
169	BROCADE	H	5	0	5	5	0-0	N,V	1	1	

Right column

WORD #	WORD	SMPL	O	TH	N	V	A QT	TYPE	GP SM	CO	DATA IN CH.
175	BUBBLE	H	3	3A	7	3	0-0	N,V	1	1	4,5
176	BUFFALO	T,H	1	1A	-1	9	0-0	N,V	1	1	4,5
177	BUILD	T,H	1	1A	9	9	0-0	N,V	1	1	
181	BUSTLE	T	6	7	3	7	0-0	N,V	3	3	4,5
182	BUY	H	1	3A	1	1	0-0	N,V	1	1	
185	CAN	H	1	1A	5	5	0-0	N,V	1	1	
189	CARD	H	1	1A	2	2	0-0	N,V	1	1	
191	CARE	H	1	4B	-1	1	0-0	N,V	1	1	
192	CAREER	H	1	2A	2	2	0-0	N,V	1	1	
195	CAST	H	1	2A	0	0	0-0	N,V	1	1	
196	CAT	H	1	1A	6	6	0-0	N,V	1	1	
197	CATCH	H	1	1B	-1	1	0-0	N,V	1	1	
199	CAUSE	H	1	1A	4	4	0-0	N,V	1	1	
200	CAVE	H	1	2B	6	6	0-0	N,V	1	1	
202	CELL	H	1	3B	7	7	0-0	N,V	1	1	
203	CENTER	H	1	1B	5	5	0-0	N,V	1	1	
206	CHANGE	H	1	1A	1	1	0-0	N,V	1	1	
207	CHANNEL	H	1	3B	5	5	0-0	N,V	1	1	
208	CHAPTER	H	4	4A	6	6	0-0	N,V	1	1	3,4
210	CHART	H	1	5B	5	5	0-0	N,V	1	1	3,4
211	CHECK	H	2	2A	4	4	0-0	N,V	1	1	
216	CHISEL	H	4	1A	6	6	0-0	N,7	1	1	
219	CHURCH	H	2	2A	2	2	0-0	N,V	1	1	
226	CLENCH	H	2	1A	0	0	0-0	N,V	1	1	
227	CLIMB	H	2	2B	1	1	0-0	N,V	1	1	
229	CLOTHE (S)	H	7	7	2	2	0-0	N,V	1	1	
230	CLOWN	H	2	2B	9	9	0-0	N,V	1	1	
231	CLUB	H	1	1B	4	4	0-0	N,V	1	1	
235	COMMAND	H	1	2R	7	7	0-0	N,V	1	1	
237	COMMENT	H	2	2B	6	6	0-0	N,V	1	1	
241	CONCERN	H	3	5B	2	2	0-0	N,V	1	1	
253	CONTACT	H	2	7	1	1	0-0	N,V	1	1	
256	CONTROL	H	1	2B	9	9	0-0	N,V	1	1	
260	COOK	H	1	1B	0	0	0-0	N,V	1	1	
261	COPY	H	5	5R	6	6	0-0	N,V	1	1	
262	CORNER	H	1	1B	2	2	0-0	N,V	1	1	
263	COSTUME	H	2	5B	1	1	0-0	N,V	1	1	
264	COUPLE	H	2	2R	2	2	0-0	N,V	1	1	
269	COURT	H	2	7	7	7	0-0	N,V	1	1	
271	COW	H	1	1B	9	9	0-0	N,V	1	1	
274	CROUCH	H	5	5B	9	9	0-0	N,V	1	1	
275	CROWD	H	1	1B	9	9	0-0	N,V	1	1	
276	CRY	H	2	2R	1	1	0-0	N,V	1	1	
278	CURE	H	2	2A	2	2	0-0	N,V	1	1	
283	DAWN	H	5	5A	1	1	0-0	N,V	1	1	
285	DAZZLE	H	1	1B	-1	1	0-0	N,V	1	1	
293	DEAL	H	2	2R	9	9	0-0	N,V	1	1	4,7
292	DECK	H	1	2A	2	2	0-0	N,V	1	1	
301	DESERT	H	2	2R	2	2	0-0	N,V	1	1	
307	DESIGN	H	3	3A	5	5	0-0	N,V	1	1	

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RUN-VERB WORDS

MSE VECTOR / GR. SM DATA IN CH.

Right column (WORD # / WORD):

WORD #	WORD
434	FRACTURE
436	FRAY
442	FUNCTION
443	GAIN
446	GARDEN
453	GIRDLE
456	GLANCE
464	GRADE
470	GRIN
471	GRIND
474	GROUP
476	GROWL
477	GUESS
479	GUN
481	HAND
482	HANDLE
486	HATE
487	HAZE
489	HEAD
491	HEDGE
494	HELP
496	HIDE
498	HILT
499	HIRE
501	HIT
502	HOIST
504	HONEYCOMB
505	HOPE
509	HUDDLE
510	HULL
511	HUM
515	HUNT
517	HURT
518	HUSBAND
519	HUT
530	IMPRESS
534	INCENSE
536	INCREASE
541	INFLUENCE
547	INSTANCE
553	INTEREST
557	ISSUE
559	ITCH
561	JAW
562	JOB
563	JOG
565	JUDGE
566	JUMP
570	KICK
571	KID

Left column (WORD # / WORD):

WORD #	WORD
301	DESIRE
303	DIAL
310	DIE
313	DIGEST
315	DID
318	DISCIPLINE
320	DISEASE
322	DISK
323	DISUSE
324	DIVIDE
327	DIVORCE
329	DOCK
330	DOCTOR
334	DOUBT
336	DREAM
337	DRINK
339	DRIVE
	EARTH
347	ECLIPSE
351	EFFECT
	END
370	ESCAPE
371	ESTIMATE
386	EXTRACT
	EYE
387	FACE
	FACTOR
392	FALL
396	FAVOR
397	FATHER
399	FEEL
402	FEVER
402	FIELD
405	FIGHT
407	FILL
	FIND
410	FINISH
	FIRE
413	FISH
415	FIST
416	FIX
418	FLIRT
420	FLOOD
	FLOWER
	FOIL
423	FOOT
627	FORCE
	FORM

NOUN-VERB WORDS

Column headers (both tables): WORD # | WORD | SMPL | C TH | MGF VECTOR (N V A DT TYPE CO) | GR SM | DATA IN CH.

WORD #	WORD
572	KILL
574	KNIFE
577	KNOT
580	LABOR
581	LAKE
584	LAND
600	LEAVE
607	LET
608	LETTER
617	LIFE
620	LIMIT
622	LINE
624	LINK
630	LOAD
631	LOAN
633	LODGE
634	LOOK
637	LORD
641	LOVE
654	MAKE
655	MAN
658	MANUFACTURE
659	MAP
661	MARCH
642	MARK
643	MARKET
647	MASS
668	MASTER
669	MATTER
677	MEET
681	MENTION
687	MIGHT
689	MILL
690	MIND
692	MINISTER
696	MISS
699	MISTAKE
700	MIX
711	MOTHER
713	MOTOR
716	MOVE
719	MUSHROOM
723	NAME
729	NECK
730	NEED
733	NEIGHBOR
735	NIBBLE
740	NOISE
742	NOSE

WORD #	WORD
750	NURSE
752	OBJECT
758	OFFER
761	OFFICER
769	ORDER
773	OUTLAW
775	OUTRAGE
777	OVERTURN
781	PACE
782	PACK
783	PAGE
784	PAIN
785	PAINT
786	PAPER
787	PARACHUTE
791	PARROT
794	PARTNER
795	PASS
798	PATTER
799	PATTERN
800	PAY
807	PENSION
808	PEOPLE
811	PERMIT
818	PICK
819	PICTURE
820	PIECE
821	PIG
822	PIKE
824	PLACE
826	PLAN
827	PLANE
828	PLANK
829	PLANT
833	POCKET
837	POINT
838	POLE
839	POLICE
844	POLL
845	POST
850	POT
851	POUND
855	PRACTICE
864	PRESERVE
866	PRESS
867	PRESSURE
871	PRICE
879	PROCEED
881	PROGRAM
882	PROGRESS

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NOUN-VERB WORDS

Left table:

WORD #	WORD
887	PROJECT
888	PROMISE
889	PROPOSITION
890	PROWL
891	PRY
892	PULL
893	PURPOSE
900	PUSH
901	PYRAMID
902	QUARANTINE
904	QUESTION
905	QUIVER
907	RABBIT
908	RACE
911	RAIN
914	REACH
919	REASON
921	RECORD
923	REGARD
931	RENDER
933	REPORT
935	RESERVE
937	RESPECT
940	REST
941	RESULT
944	RICE
945	RIDE
947	RISE
952	ROLL
953	ROOM
956	ROVE
958	RUN
959	RUSH
961	SAND
966	SAY
967	SCARE
968	SCHOOL
971	SCISSOR
972	SCOOP
973	SCREAM
972	SCREEN
973	SEARCH
974	SEASON
975	SEE (SAW)
980	SAW <SEE
988	SELL
989	SENSE
994	SHAPE
996	SHELL
1002	SHIFT

Right table:

WORD #	WORD
1003	SHOCK
1004	SHOE
1005	SHOP
1006	SHOOT (SHOT)
1009	SHOUT
1010	SHOW
1015	SIGHT
1016	SIGN
1023	SKIRT
1025	SLAVE
1026	SLEEP
1027	SLEIGH
1028	SLIT
1029	SLOPE
1031	SMILE
1033	SNAKE
1034	SNATCH
1035	SNOW
1036	SOCKET
1038	SOLDIER
1044	SORROW
1046	SORT
1053	SPEAR
1056	SPIRIT
1057	SPIT
1058	SPITE
1059	SPLINTER
1057	SPOKE <SPEAK
1061	SPORT
1062	SPOT
1063	STAIN
1064	STAMMER
1065	STAND
1057	STAR
1068	START
1069	STATE
1071	STATION
1073	STAY
1074	STEER
1075	STICK
1077	STIR
1078	STONE
1079	STOP
1080	STORE
1081	STORM
1088	STROLL
1090	STRUCTURE
1091	STRUGGLE
1093	STUDY
1101	SUIT

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WORD #	WORD
1211	WAIT
1212	WAKE
1213	WALK
1214	WANT
1218	WATCH
1219	WAX
1223	WEATHER
1229	WILL
1230	WIND
1233	WINE
1235	WISH
1237	WITCH
1241	WORK
1244	WORRY
1271	WOUND
1248	YARD
1250	YELL
1253	ZERO

DUPLI-VEGA WORDS

WORD	WORD
1103	SUMMER
1104	SUN
1106	SUPPLY
1107	SUPPORT
1108	SURPRISE
1110	SUSPICION
1111	SWAMP
1112	SWIM
1114	TABLE
1115	TAG
1116	TAKE
1117	TALK
1117	TASK
1121	TAUNT
1121	TAX
1126	TEAR
1129	TERM
1130	TETHER
1131	THANK
1134	THOUGHT
1134	THROB
1138	TIE
1140	TIME
1141	TINGE
1143	TIRE
1144A	TOP
1148	TOUCH
1150	TOUR
1152	TRADE
1153	TRAIN
1154	TRANCE
1155	TRAVEL
1156	TREAT
1159	TREE
1160	TRIP
1162	TRIUMPH
1164	TROUBLE
1166	TRUST
1168	TRY
1171	TWINE
1172	TYPE
1174	UMPIRE
1183	USE
1197	VALUE
1200	VIEW
1205	VISION
1206	VISIT
1207	VOICE
1208	VOLUNTEER
1209	VOTE

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NOUN-ADJECTIVE WORDS

	WORD	SMPL	O TH	MGF VECTOR N	V A GT	GR. TYPE	SM CO	DATA IN CH.
6	ABSOLUTE	T	4	2P -1	0 9	0-0 N.A	4 1	-1
4	ACADEMIC	I	7	8R -1	0 9	0-0 N.A	4 1	-1
17	ACTIVE	I	7	3R -1	0 9	0-0 N.A	1 1	-1
70	AROMATIC	T	2	8 2	0 4	0-0 N.A	2 1	4
101	AUTO	T	1	5A -1	0 9	0-0 N.A	4 1	-1
110	BAD	I	3	1A -1	0 9	0-0 N.A	1 1	-1
118	BASIC	T	3	11 -1	0 0	0-0 N.A	1 1	3,4
190	CARDINAL	T	7	8 6	0 4	0-0 N.A	1 3	4
217	CHOCOLATE	T	7	4A 2	0 0	0-0 N.A	1 1	-1
251	CONSONANT	T	1	1A -1	0 9	0-0 N.A	3 1	-1
293	DEEP	I	1	2A 2	0 9	0-0 N.A	1 1	-1
342	DUE	T.H	1	3R 2	0 8	0-0 N.A	1 1	3,4
353	ELDER	T.H	1	8 7	0 7	0-0 N.A	1 1	3,4,5
367	EPIDEMIC	T	7	7 -1	0 2	0-0 N.A	1 1	4
369	EQUIVALENT	T	7	7 7	0 7	0-0 N.A	1 1	4,5
381	EXPEDIENT	T	3	2A 2	0 0	0-0 N.A	1 3	-1
385	EXTREME	I	5	5B -1	0 4	0-0 N.A	3 1	-1
398	FEDERAL	T	3	1B 3	0 0	0-0 N.A	1 1	4,5
431	FORMER	I	1	1A -1	0 9	0-0 N.A	1 1	3,4
445	GAME	I	1	2A -1	0 9	0-0 N.A	1 1	-1
447	GENERAL	T	2	1A -1	0 9	0-0 N.A	1 1	-1
457	GIANT	CT.H	1	1A 7	0 7	0-0 N.A	1 1	4,5
462	GOOD (S)	T.H	1	2A -1	0 4	0-0 N.A	1 1	3,4
468	GRAVE	T	1	3A -1	0 9	0-0 N.A	3 3	3,4
514	HUNDRED	I	1	1A 5	0 0	0-0 N.A	1 1	-1
540	INDIVIDUAL	T	5	2R 2	0 4	0-0 N.A	1 1	4,5
548	INSTANT	T	7	5B -1	0 0	0-0 N.A	1 1	-1
551	INTELLECTUAL	T	5	1B 5	0 9	0-0 N.A	1 1	-1
552	INTERNATIONAL	T	8	8 -1	0 9	0-0 N.A	4 1	3,4
565	IRREGULAR	T	4	4B -1	0 8	0-0 N.A	1 1	3,4
610	LIBERAL	T	5	1B -1	0 4	0-0 N.A	4 1	-1
694	MINUTE	I	1	1B 7	0 0	0-0 N.A	1 1	-1
701	MODERN	I	2	2B -1	0 9	0-0 N.A	1 1	3,4
709	MORAL	T	3	3A -1	0 0	0-0 N.A	3 1	-1
724	NATIONAL	T.H	2	2R -1	0 0	0-0 N.A	4 1	3,4
728	NECESSARY	T	2	1R -1	0 9	0-0 N.A	1 1	-1
738	NINE	I	1	1R -1	0 9	0-0 N.A	1 1	-1
741	NORMAL	I	5	5A -3	0 0	0-0 N.A	3 1	-1
742	NORTHEAST	T	2	7 8	0 0	0-0 N.A	1 1	3,4
746	NOVEL	T	5	5A -1	0 9	0-0 N.A	1 1	4,5
754	OBJECTIVE	T	6	16 7	0 4	0-0 N.A	1 1	-1
758	OFFENSIVE	T	5	3A -1	0 9	0-0 N.A	1 1	3,4
742	OFFICIAL	T	3	3A -5	0 4	0-0 N.A	1 1	3
792	PARTICIPANT	T.H	1	16 9	0 7	0-0 N.A	1 1	-1
797	PATIENT	T	2	2R 4	0 4	0-0 N.A	1 1	3,4
805	PERTINENT	T	3	3B -1	0 0	0-0 N.A	1 1	3
814	PERSONAL	T.H	1	1A -1	0 0	0-0 N.A	1 1	-1
825	PLAIN	I	5	6 -1	0 0	0-0 N.A	1 1	4,5
833	POETIC (S)	T.H	1	5B -1	0 0	0-0 N.A	4 1	-1
871	PRIMARY	I	1	0 0	0 0	0-0 N.A	3 1	3,4,5

WORD #	WORD	SMPL	O TH	MGF VECTOR N	V A GT	GR. TYPE	SM CO	DATA IN CH.
875	PRINCIPAL	H	4	2R 1	0 9	0-0 N.A	1 4	-1
874	PRIVATE	H	4	2A 1	0 9	0-0 N.A	4 1	4,5
897	PUBLIC	T.H	5	2R -1	0 9	0-0 N.A	1 3	-1
910	RADICAL	T	7	7 -1	0 0	0-0 N.A	2 1	3,4
926	RELATIVE	T	4	3A -1	0 4	0-0 N.A	4 1	4
943	REVEREND	T	4	4R -1	0 9	0-0 N.A	1 1	-1
957	ROYAL	I	2	2A 1	0 4	0-0 N.A	1 1	-1
960	SAFFRON	I	1	10 2	0 6	0-0 N.A	1 1	3,4
944	SAVAGE	T	7	12B 4	0 8	0-0 N.A	1 1	4
1030	SOLITARY	T	4	4A 2	0 3	0-0 N.A	1 3	4
1065	STANDARD	T	1	1A 0	0 0	0-0 N.A	1 1	-1
1084	STRANGER	H	2	2R 1	0 9	0-0 N.A	3 1	4,5
1128	TENTH	T	4	3A 0	0 0	0-0 N.A	1 1	4
1210	VULGAR	T	4	5B 1	0 0	0-0 N.A	1 1	4

VERB-ADJECTIVE WORDS

WORD #	WORD	SYL	C	TH	MCE VECTOR N	V	ADT	GR. TYPE	SM CO	DATA IN CH.
77	AGED	H	1	6	0	5	5	0-0	V,A	1	4
60	ANIMATE	T	7	6	0	9	1	0-0	V,A	1	3,4,5
667	BEST	STH	1	1A	0	1	0	0-0	V,A	1	—
767	BROKE	I	1	2A	0	9	1	0-0	V,A	1	4,5
212	CHECKED	I	1	2A	0	3	2	0-0	V,A	3	—
316	DIRECT	I	2	1B	0	4	4	0-0	V,A	1	3,4
329	DIZZY	T	5	1A	0	6	6	0-0	V,A	1	3,4
379	EXEMPT	T	1	6	0	2	2	0-0	V,A	1	3,4
437	FREE	H	1	1A	0	8	8	0-0	V,A	1	3,4,5
601	LEFT	H	1	1A	0	2	2	0-0	V,A	1	—
615	LIVE	I	1	2A	0	9	9	0-0	V,A	1	3,4,5
635	LONG	I	1	1A	0	9	7	0-0	V,A	1	—
641	LOW	STH	1	1A	0	7	1	0-0	V,A	1	—
644	LOWER	T	4	1B	0	5	3	0-0	V,A	1	3,4
670	MATURE	T	4	4A	0	9	5	0-0	V,A	1	4,5
678	MELLOW	T	2	1B	0	1	1	0-0	V,A	1	—
809	PERFECT	T	3	2A	0	2	2	0-0	V,A	1	4
977	SECURE	T	1	1B	0	7	7	0-0	V,A	1	—
987	SEPARATE	T	4	2A	0	8	8	0-0	V,A	1	—
1049	SPARE	T	4	5A	0	2	2	0-0	V,A	1	3,4
1118	TARRY	T	3	1A	0	1	1	0-0	V,A	1	3,4,5
1137	TIDY	T	1	1A	0	3	3	0-0	V,A	1	3,4
1215	WARM	H	1	1A	0	7	7	0-0	V,A	1	4

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NOUN-VERB-ADJECTIVE WORDS

WORD #	WORD	SMPL	Q TH	MGF VECTOR N	V	A	QT	GP. TYPE	SM CO	DATA IN CH.
1225	WELCOME	H	1	2A	2	4	4	O-O NVA	1	--
1247	WRONG	H	1	1B	1	2	8	O-O NVA	1	--

WORD #	WORD	SMPL	Q TH	MGF VECTOR N	V	A	QT	GP. TYPE	SM CO	DATA IN CH.
43	ALERT	T						O-O NVA		--
103	AVERAGE	H						O-O NVA		--
108	BABY	T,H						O-O NVA		4
109	BACK	H						O-O NVA		--
127	BEAT	H						O-O NVA		--
135	BORING	T,H						O-O NVA		4,5
184	CAMP	T,H						O-O NVA		--
205	CHANCE	H						O-O NVA		--
225	CLEAR	H						O-O NVA		--
273	CLOSE	H						O-O NVA		--
236	COLOR	H						O-O NVA		--
243	CONDITION	H						O-O NVA		--
270	CUT	H						O-O NVA		--
331	DOG	H						O-O NVA		4
339	DOUBLE	H						O-O NVA		--
358	DRUNK	H						O-O NVA		--
368	EQUAL	H						O-O NVA		--
383	EXPRESS	H						O-O NVA		--
400	FELT	H						O-O NVA		--
409	FINE	H						O-O NVA		--
412	FIRM	H						O-O NVA		--
440	FRONT	H						O-O NVA		--
437	GLARE	H						O-O NVA		4
445	GRADUATE	H						O-O NVA		4
469	GREEN	H						O-O NVA		--
477	GROUND	H						O-O NVA		--
506	HORSE	H						O-O NVA		--
513	LAY	H						O-O NVA		--
504	LEAD	H						O-O NVA		--
507	LEAN	T,H						O-O NVA		--
609	LEVEL	H						O-O NVA		--
616	LIGHT	H						O-O NVA		--
618	LIKE	H						O-O NVA		--
622	LIMB	H						O-O NVA		--
452	MAJOR	H						O-O NVA		3,4
672	MEAN	H						O-O NVA		--
712	MOTIVE	H						O-O NVA		4
778	OWN	H						O-O NVA		--
863	PRESENT	H						O-O NVA		4
888	PROMPT	H						O-O NVA		--
964	RIGHT	H						O-O NVA		--
948	ROSE	H						O-O NVA		--
992	SET	H						O-O NVA		--
1007	SHOT (SHOOT)	H						O-O NVA		--
1047	SOUND	H						O-O NVA		4
1094	SUBJECT	H						O-O NVA		4
1148	TOTAL	H						O-O NVA		4
1182	UNIFORM	H						O-O NVA		4
1192	UPSET	H						O-O NVA		4
1217	WASTE	H						O-O NVA		4

APPENDIX B.   Sample Form Used in the Pilot Experiment of Chapter III.

We want to find out how you and others in your grade use certain words.

Look at each word and make up a short, complete sentence that shows how you might use it. Write the first sentence that you think of.

Then, if you can think of other ways to use the word, write one or two _more_ sentences.

To give you the idea, here are some words that have already been put into sentences:

ASHORE

1. _The man came ashore._

2. _____

3. _____

CAMP

1. _The camp was on a lake._

2. _It was too cold to camp out._

3. _____

LEAN

1. _The man leaned against the wall._

2. _I like lean meat._

3. _____

Now try this one yourself:

CROSS

1. _____

2. _____

3. _____

In the rest of this booklet, write one, two, or three sentences for each of the words that are given. It is up to you to decide how many sentences you write for each word.

Please do not turn the page until you are told to do so.

FORM I^-1

COUNTRY

1. _____

2. _____

3. _____

SAVAGE

1. _____

2. _____

3. _____

SEND

1. _____

2. _____

3. _____

LIVE

1. _____

2. _____

3. _____

COUSIN

1. _____

2. _____

3. _____

BLOSSOM

1. _____

2. _____

3. _____

245

FORM <u>IA-2</u>

REAL

1. _____

2. _____

3. _____

GENERAL

1. _____

2. _____

3. _____

ENTER

1. _____

2. _____

3. _____

FREE

1. _____

2. _____

3. _____

EXPLAIN

1. _____

2. _____

3. _____

GLANCE

1. _____

2. _____

3. _____

-B4-

HONEST

1. _____

2. _____

3. _____

INSTANT

1. _____

2. _____

3. _____

AFRAID

1. _____

2. _____

3. _____

DIRECT

1. _____

2. _____

3. _____

PRINCE

1. _____

2. _____

3. _____

JUMP

1. _____

2. _____

FORM _I-A_

APPENDIX C. Sample Form Used in the Normative Study of Chapter IV.

We want to find out how you and others in your grade use certain words.

For each word write two short, complete sentences showing that you know how
to use that word. Write the first sentence that you think of. Then, write
another sentence using the word in a different way.

To give you the idea, here are some words that have already been put into
sentences:

right

　　1. _Turn right at the corner._
　　2. _I have the right answer._

paint

　　1. _Paint the sky blue._
　　2. _Don't spill your paint._

clear

　　1. _It is clear and sunny today._
　　2. _Clear the table when you finish._

Now try this one yourself:

rest

　　1. _____

　　2. _____

In the rest of this booklet, write two sentences for each of the words that
are given.

Please do not turn the page until you are told to do so.

1. jump

   1._____

   2._____

2. free

   1._____

   2._____

3. savage

   1._____

   2._____

4. public

   1._____

   2._____

5. kick

   1._____

   2._____

6. disease

   1._____

   2._____

7. stranger

   1._____

   2._____

8. slope

   1._____

   2._____

9. preserve

   1._____

_____

10. warm

    1._____

    2._____

11. total

    1._____

    2._____

12. patient

    1._____

    2._____

13. crowd

    1._____

    2._____

14. sight

    1._____

    2._____

15. game

    1._____

    2._____

16. fill

    1._____

    2._____

17. camp

    1._____

    2._____

18. green

    1._____

    2._____

19. train

    1._____   _____

    2._____

20. due

    1._____

    2._____

21. nine

    1._____

    2._____

22. pick

    1._____

    2._____

23. miss

    1._____

    2._____

24. lean

    1._____

    2._____

25. map

    1._____

    2._____

26. age

    1._____

    2._____

27. take

    1._____

    2._____

APPENDIX D

Results of the Main Study for Individual Words

This Appendix actually presents a summary of normative data (as described in Chapter IV) and the comprehension test data (Chapter V) obtained on the 63 words used in the Main Study. It also presents the actual sentences used in the Sentence Evaluation and Headlines tests, arranged in a manner to facilitate detailed study of the results.

There is a page for each word, identified at the top. The first line below the identification of the word gives the word number as assigned in Appendix A, the sample (S) from which it was drawn, the Dale rating (D), the Thorndike Rank-Frequency Index (TH), the Grammatical Code (GC), the Semantic Code (SMCO), and the MGF vector (N, V, A). This is immediately followed by normative data drawn from Table 4.3 concerning the parts of speech used when children at various grades are asked to write sentences illustrating the use of the word. (Normative data from Level 1, Grade 6 are included here even though they were not given in Table 4.3 because of the small N's.) See Chapter IV for an explanation of these data.

The bottom two-thirds of each page is devoted to the data from the Main Study (Chapter V). Proportions of correct, incorrect, and missing responses to "high frequency" (H), "low frequency" (L), and anomalous (A) usages in the Sentence Evaluation test are given; z-tests of the differences in proportions of correct responses to H and L usages are shown. The z-tests for grade comparisons for H, L, and A proportions of correct responses are then given (drawn from Table 5.7). Similar data are then given for the Headlines test, but z-tests are shown not only for correct responses (R) but also for incorrect (W) and uninterpretable (?) responses. The z-tests for grade comparisons, however, refer only to proportions of correct responses.

APPENDIX D

RESULTS FOR INDIVIDUAL WORDS

VEC 1 1 AGE

NORMATIVE DATA

	MGF VECTOR				----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE--		
					TOT. Z BASE					P(VAL. ?(GRAM.		
WDM	S D TH	GC SMCD	N V A		N VALID N	P(V)	P(V)	P(A)	P(OT)	P(2) 2ND R) CHANGE?		
34	3 1 18	4	1 9 1 0	GR.3: 102 0.245	25	1.000 *0.0	*0.0	0.0	*0.0	0.600 0.520 0.0		
				GR.6: 17 0.588	10	0.900 0.100	0.0	0.0		0.900 0.900 0.556		

SENTENCE EVALUATION TEST

			------GRADE 3------				------GRADE 6------			
ITEM FM	SENTENCE		1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
7	A	H-N HE TOLD ME HIS <AGE>.	0.797	0.152	0.051	138	0.912	0.087	0.0	80
6	L-V THE TREES <AGE> EVERY YEAR.		0.391	0.594	0.014	138	0.800	0.188	0.012	80
			Z	6.86***			2.03*			
8	A-* THE <AGE> PAPER WAS NEW.		0.167	0.826	0.007	138	0.025	0.975	0.0	80

GRADE COMPARISONS : H 2.24*   L 5.84***   A 3.27**

HEADLINES TEST

			------GRADE 3------				------GRADE 6------			
ITEM FM	HEADLINE		1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
17	A	H-N CHILD TELLS HIS <AGE>	0.575	0.087	0.068	0.271	207	0.775	0.075	0.083	0.067	120
7	L-V STUDY SHOWS PEOPLE <AGE> SLOWER		0.087	0.227	0.140	0.546	207	0.483	0.158	0.167	0.192	120
			Z	10.55	-3.92	-2.42		4.68	-2.01	-1.95	
				***	***	*		***	*		

GRADE COMPARISONS: H 3.65***   L 8.18***

RESULTS FOR INDIVIDUAL WORDS

LEVEL: 2 HOURS

NORMATIVE DATA

	AGE VECTOR					----DATA FROM FIRST SENTENCE WRITTEN----						--2ND SENTENCE---		
	S D TH GC S AGE N V A					TOT. % BASE							P(VAL. P(GRAM.	
						N VALID N	P(V)	P(V)	P(A)	P(OT)	P(2) 2ND R) CHANGE)		
147	2 2 24 2	1	0	9	1	GR.3: 98 0.735 72 *0.0	0.889	*0.111	*0.0	0.0	0.875 0.306 0.276		
						GR.6: 19 1.000 19 *0.0	0.737	0.263	*0.0	0.0	0.895 0.442 0.375		

SENTENCE EVALUATION TEST

		------GRADE 3------				------GRADE 6------			
ITEM #	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
G	HOW DOE CAR <CHECKED> DOWN DURING OUR TRIP.	0.855	0.109	0.036	138	0.987	0.012	0.0	80
C	I-1 WE SPEND SO MUCH THAT WE ARE GETTING <BROKE>.	0.761	0.217	0.022	138	0.825	0.162	0.012	80
		Z	1.99*				3.53***		
T	8-8 HE BOUGHT A NEW <BROKE> WITH HIS BIRTHDAY MONEY.	0.152	0.833	0.014	138	0.037	0.962	0.0	80

GRADE COMPARISONS : H 3.19*** L | 1.11 A 2.84***

HEADLINES TEST

		--------GRADE 3--------					--------GRADE 6--------			
ITEM #	HEADLINE	1(P)	2(W)	3(?)	4(NR)	N	1(P)	2(W)	3(?)	4(NR) N
A	HOW CARS <BROKE> DOWN ON ROAD	0.198	0.473	0.232	0.097	207	0.425	0.283	0.267	0.025 120
R	I-1 COUNTRY GOING <BROKE>	0.560	0.150	0.135	0.155	207	0.792	0.117	0.067	0.025 120
		Z	-7.60	7.11	2.54		-5.82	3.23	4.16	
			***	***	*		***	**	***	

GRADE COMPARISONS: H 4.40*** L 4.21***

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

							-----DATA FROM FIRST SENTENCE WRITTEN-----						--2ND SENTENCE---
							TOT. & BASE							P(VAL. P(GRAM.
WOR	N O TH	GG SVCC	WOF VECTOR N V A				N VALID N	P(N)	P(V)	P(A)	P(OT)		P(2(2ND R) CHANGE)
WOS	3 1	1R 7	1 R 1 1	GR-3:	102	0.716	22	0.955	*0.045	*0.0	*0.0		0.591 0.500 0.182
				GR-6:	1°	0.684	13	1.000	*0.0	*0.0	*0.0		0.923 0.923 0.250

SENTENCE EVALUATION TEST

						------GRADE 3------				------GRADE 6------		
ITEM FR	SENTENCE					1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
7	WE DID NOT HAVE A <CHANCE> TO SEE THEM.					0.761	0.203	0.036	138	0.912	0.087	0.0	80
4	THE DRIVER SAID HE WOULD <CHANCE> THE RACE IN THE SNOW.					0.384	0.594	0.022	138	0.525	0.475	0.0	80
					Z	6.33***					5.45***		
6	THE <CHANCE> PERSON WENT TO CHURCH EVERY SUNDAY.					0.319	0.659	0.022	138	0.175	0.813	0.012	80

GRADE COMPARISONS : H 2.79** L 2.02* A 2.41*

HEADLINES TEST

						------GRADE 3------				------GRADE 6------		
ITEM FR	HEADLINE					1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
4	THEY <CHANCE> TO SAVE LIVES IN FIRE					0.357	0.097	0.440	0.116	207	0.758	0.067	0.158	0.017	120
1	PLAYERS <CHANGE> RACE IN SWIM					0.106	0.324	0.394	0.174	207	0.325	0.317	0.275	0.083	120
					Z	6.06 -5.96 0.90					6.74 -4.72 -2.19			
						*** ***					*** *			

GRADE COMPARISONS: H 6.99*** L 4.89***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 1   4 END

NORMATIVE DATA

					----DATA FROM FIRST SENTENCE WRITTEN----					----2ND SENTENCE----

AGE   S O TH GC SVCO   VGF VECTOR   N V A

TOT. X MASE
N VALID N   P(N)   P(V)   P(G)   P(OT)

P(VAL. PIGRAM.
P(?) 2ND R) CHANGE)

AGE   31 1A 4   1   2   C   GR.3:   78 0.796   78   0.949 *0.051 *0.0   *0.0   0.731 0.705 0.109

GR.6:   19 0.947   19   1.000 *0.0   *0.0   *0.0   0.778 0.778 0.214

SENTENCE EVALUATION TEST

------GRADE 3------   ------GRADE 6------

ITEM FM   SENTENCE

1(R) 2(W) N.I   N   1(R) 2(W) N.I   N

14   1   THE CHILDREN FELL ASLEEP AT THE <END> OF THE DAY.   0.817 0.145 0.043 138   0.975 0.025 0.0   80

C   L-V   WE WAITED FOR THE LONG MOVIE TO <END>.   0.855 0.123 0.022 138   0.938 0.037 0.025 80

Z   -0.97   1.16

1   3**   THE <END> SKY WAS DARK AT NIGHT.   0.217 0.746 0.036 138   0.075 0.925 0.0   80

GRADE COMPARISONS :   H   3.48***   L   1.84   A   3.25**

HEADLINES TEST

--------GRADE 3--------   --------GRADE 6--------

ITEM FM   HEADLINE

1(R) 2(W) 3(?) 4(NR) N   1(R) 2(W) 3(?) 4(NR) N

18   1   H-N   <END> OF SCHOOL DRAWS NEAR   0.469 0.121 0.169 0.242 207   0.717 0.075 0.175 0.033 120

1   L-V   TEACHERS TO <END> GRADING OF STUDENTS   0.343 0.169 0.116 0.372 207   0.833 0.042 0.042 0.083 120

Z   2.60 -1.40   1.55   -2.16   1.10   2.12
    **   *

GRADE COMPARISONS: H   4.36***   L   8.56***

RESULTS FOR INDIVIDUAL WORDS

SUMMATIVE DATA

	GC SYMBOL	MSR VECTOR			
		A V A			
	1 1A	4 1 -1 0 0			

----DATA FROM FIRST SENTENCE WRITTEN---- -2ND SENTENCE--
P(VAL. P(GRAM.
TOT. X   BASE
N WR-IN N   P(N) P(V) P(OT) P(2) 2ND R) CHANGE)

GR.3: 132 0.520 53 *0.033 0.962 *0.0 *0.0   0.679 0.585 0.032

GR.6: 17 0.HH2 15 0.333 0.667 *0.0 *0.0   0.733 0.600 0.667

SENTENCE EVALUATION TEST

ITEM		SENTENCE	------GRADE 3------				------GRADE 6------			
			1(R)	2(W)	3(?)	N	1(R)	2(W)	N.I	N
1	M-V	THE MAN WILL <FILL> IN THE HOLE WITH DIRT.	0.804	0.174	0.022	138	0.925	0.075	0.0	80
C	L-N	THEY NEED <FILL> FOR THE HOLES IN THE ROAD.	0.355	0.630	0.014	138	0.175	0.813	0.012	80
			Z	7.50***				9.53***		
A	A-R	THEY WILL WORK VERY <FILL> TO FINISH.	0.181	0.804	0.014	138	0.050	0.950	0.0	80

GRADE COMPARISONS :   H   2.40*   L   -2.83**   A   2.97**

HEADLINES TEST

ITEM		HEADLINE	------GRADE 3------				------GRADE 6------			
			1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
1	M-V	WORKERS <FILL> HOLE	0.256	0.150	0.184	3.411	207	0.442	0.242	0.208	0.108	120
1	L-N	<FILL> NEEDED FOR HOLE	0.213	0.153	0.159	0.435	207	0.450	0.225	0.183	0.142	120
			Z	1.04	-1.17	0.65		-0.13	0.31	0.49	

GRADE COMPARISONS: H   3.46***   H   4.52***   L

RESULTS FROM INDIVIDUAL WORDS

LEVEL 1   C   FORM

NORMATIVE DATA

		MGF VECTOR				-----DATA FROM FIRST SENTENCE WRITTEN-----				--2ND SENTENCE-- P(VAL, P(GRAM,
AGE	S O TH	GC SNG N V A		TOT. % BASE VALID N	P(N)	P(V)	P(A)	P(TOT)	P(2) 2ND R) CHANGE)
447	2 ?	18 6 1 0 1 9	GR.3:	102 0.833	45 *0.0	0.0	*0.055	0.941 *0.0	0.918 0.471 0.081
			GR.6:	17 1.000	17 *0.0	0.055	0.055	0.741 *0.0	0.882 0.706 0.250

SENTENCE EVALUATION TEST

ITEM EM	SENTENCE	-------GRADE 3-------		-------GRADE 6-------	
#		1(R) 2(W)	N,I N	1(R) 2(W)	N,I N
(2 HFA AS OUT <FREE> CANDY AT THE MOVIE.		0.761 0.203	0.036 138	0.925 0.075	0.0 80
3 L-V THE HUNTERS WILL <FREE> THE WILD ANIMAL.		0.572 0.406	0.022 138	0.852 0.137	0.0 80
		Z 3.32***		1.28	
G A+* THE <FREE> IS READY FOR DINNER.		0.181 0.797	0.022 138	0.037 0.939	0.025 80

GRADE COMPARISONS :   H   3.05**   L   4.42***   A   2.79**

HEADLINES TEST

ITEM EM	HEADLINE	-------GRADE 3-------			-------GRADE 6-------		
#		1(R) 2(W) 3(?)	4(NR) N	1(R) 2(W) 3(?)	4(NR) N
21 A HFA <FREE> CANDY AT MOVIE	0.333 0.077 0.203	0.382 267	0.750 0.042 0.125	0.083 120
3 L-V HUNTERS <FREE> WILD ANIMAL	0.425 0.130 0.106	0.338 207	0.659 0.058 0.200	0.083 120
		Z -1.97 -1.77 2.84		1.56 -0.59 -1.57	
		**			

GRADE COMPARISONS: H   7.27***   L   4.07***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 1   7 GAME

NORMATIVE DATA

					----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE---
										P(VAL P(GRAM.
					Tot. % BASE					P(2) 2ND #1 CHANGE)
ADD N O TH GC SVC. V A			N VALID N	P(N) P(V) P(A) P(I)I)				
N-5 2 1 1A 5 5 C 1	G-3: 102 0.833 A5	1.000 *0.0 *0.0 *0.0				0.753 0.706 0.0
	Gra6: 17 0.892 15	0.933 *0.0 0.067 *0.0				0.800 0.800 0.083

SENTENCE EVALUATION TEST

	------GRADE 3------	------GRADE 6------
	1(R) 2(W) N,I N	1(R) 2(W) N,I N
ITEM FM SENTENCE		
* B M-5 CUR TEAM WIN THE <GAME>.	0.012 0.181 0.807 13A	1.000 0.0 0.0 80
A L-A THE MAN WAS <GAME> FOR THE RACE.	0.145 0.804 0.051 13A	0.250 0.750 0.0 80
	Z 11.09***	9.80***
C A-A ME CAN <GAME> THE PAINTING.	0.123 0.862 0.014 13A	0.075 0.912 0.012 80

GRADE COMPARISONS : H 4.14***   L | H 1.93   A 1.10 |

HEADLINES TEST

	------GRADE 3------	------GRADE 6------
	1(R) 2(W) 3(?) 4(NR) N	1(R) 2(W) 3(?) 4(NR) N
ITEM FM HEADLINE		
15 R M-5 TEAM WINS <GAME>	0.217 0.130 0.309 0.343 207	0.442 0.100 0.400 0.058 120
A L-A RUNNER <GAME> FOR RACE	0.048 0.309 0.309 0.498 207	0.275 0.367 0.175 0.183 120
	Z 5.07 -4.39 3.99 3.99	2.69 -4.98 3.85
	*** *** ***	** *** ***

GRADE COMPARISONS: H 4.27***   L 5.85***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   P   '-AVE

NORMATIVE DATA

						-----DATA FROM FIRST SENTENCE WRITTEN-----					--2ND SENTENCE----- P(VAL. PIGRAM.
		VEC VECTOR				TOT. & BASE						
	S O TH GC SMCP N V A				N VALID N	P(N)	P(V)	P(A)	P(OT)	P(2) 2ND R) CHANGE)
447	2 1 2A 5 4 8 0 2	Gr.4:	9n 0.704	20	0.950 *0.0	*0.050 *0.0	0.400	0.250	0-200
		Gr.6:	19 0.789	16	0.733 *0.0	0.767 *0.0	0.733	0.666	0.400

SENTENCE EVALUATION TEST

------GRADE 3------   ------GRADE 6------

ITEM FM	SENTENCE												
		1(R)	2(M)	N,I	N	1(R)	2(M)	N,I	N			
13	M-? THEY DUG A <GRAVE> FOR THE BODY.	0.763	0.184	0.029	139	0.950	0.037	0.012	80			
	I-? IT WAS A VERY <GRAVE> PROBLEM.	0.210	0.746	0.043	138	0.400	0.600	0.0	80			
		Z 9.51***				7.43***						
	N-8 THE FISH WILL <GRAVE> IN THEIR NEW POND.	0.312	0.638	0.051	138	0.225	0.775	0.0	80			

GRADE COMPARISONS : H   3.28**   L   3.01**   A   2.11*

HEADLINE TEST

--------GRADE 3---------   --------GRADE 6--------

ITEM FM	HEADLINE												
		1(R)	2(M)	3(?)	4(NR)	N	1(R)	2(M)	3(?)	4(NR)	N	
5	M-? BODY FOUND IN <GRAVE>	0.454	0.164	0.198	0.184	207	0.792	0.042	0.142	0.025	120	
6	I-A TEACHERS FACE <GRAVE> PROBLEMS	0.193	0.179	0.280	0.348	207	0.583	0.125	0.183	0.108	120	
		Z 5.67 -0.39 -1.96				3.48 -2.34 -0.87						
		***				***						

GRADE COMPARISONS: H   5.96***   L   7.20***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   LINE

NORMATIVE DATA

	AGE VECTOR N Y A	AGE SMOG Y Y A		----DATA FROM FIRST SENTENCE WRITTEN----						--2ND SENTENCE-- DEVAL. P(GRAM.
				TOT. & N VALID	CASE N	P(G)	P(V)	P(A)	P(GT)	P(2) 2ND W) CHANGE)
6/6 ? 1 13 4	? 0 1 0	GR.3:	132 0.657	67	0.940	*0.040	*0.0	*0.0	0.716 0.657 0.023
		GR.6:	19 0.737	14	0.457	0.143	*0.0	*0.0	1.000 1.000 0.214

SENTENCE EVALUATION TEST

ITEM #	SENTENCE	-----GRADE 3-----				-----GRADE 6-----			
		1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
C H-A	WE HAD TO GET IN <LINE> BEFORE WE WENT OUT.	0.384	0.094	0.022	138	0.975	0.012	0.012	80
2 L-V	WE HAD TO <LINE> UP BEFORE LUNCH.	0.804	0.181	0.014	138	0.900	0.100	0.0	80
Z		1.83				1.96			
4 A-E	WE HAD A VERY <LINE> WALK TO FINISH.	0.167	0.797	0.036	138	0.063	0.925	0.012	80

GRADE COMPARISONS : H 2.35*   L 1.85   A 2.51*

HEADLINES TEST

ITEM #	HEADLINE	-----GRADE 3-----					-----GRADE 6-----				
		1(8)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
11 A M-A	LONG <LINE> EXPECTED FOR NEW MOVIE.	0.198	0.193	0.169	0.440	207	0.475	0.232	0.142	0.092	120
B L-V	STUDENTS <LINE> HALLS FOR NOON MEAL	0.0?:	0.300	0.742	0.391	207	0.333	0.400	0.200	0.067	120
Z		3.01	-7.51	-1.83			2.24	-1.76	-1.20		
		***	*				*				

GRADE COMPARISONS: H 5.27***   L 6.24***

RESULTS FOR INDIVIDUAL WORDS

SUMMATIVE DATA

LEVEL 1   10 LIVE

					NOF VOCTIP				-----DATA FROM FIRST SENTENCE WRITTEN------				--2ND SENTENCE---
								TOT. / BASE						P(VAL. P(GRAM.	
	WOR	S C IN CC BACE	N V A			N. VALID	N	P(N)	P(V)	P(A)	P(OT)	P(2) 2ND R) CHANGE)		
	415	13 13 4	1 C 0 1	Gr.3:	107 0.063	45 *0.0	0.977 *0.023 *0.0					0.773 0.739 0.015		
				Gr.6:	19 0.442	16 *0.0	0.938 0.063 *0.0					0.938 0.875 0.071		

SENTENCE EVALUATION TEST

			------GRADE 3-------				------GRADE 6-------			
ITEM NO	SENTENCE	1(P)	2(W)	N,I	N	1(R)	2(W)	N,I	N
11	1-V A LOT OF PEOPLE <LIVE> IN BIG CITIES.	0.826	0.123	0.051 138		0.962	0.037	0.0	80
C	L-A THE ZOO HAS LOTS OF <LIVE> ANIMALS.	0.746	0.232	0.022 138		0.737	0.200	0.012	80
		Z 1.62				3.35***			
A	A-W THE <LIVE> IS ALMOST READY TO GO.	0.159	0.804	0.036 139		0.087	0.912	0.0	80

GRADE COMPARISONS :   H   2.95**   L   0.69   A   2.12*

HEADLINE TEST

			--------GRADE 3--------				--------GRADE 6--------			
ITEM NO	HEADLINE	1(R)	2(W)	3(?)	4(NR) N	1(R)	2(W)	3(?)	4(NR)
A	M-V MORE PEOPLE <LIVE> IN CITIES	0.498	0.121	0.242 0.140 207		0.750	0.067	0.142 0.042 120
H	L-A <LIVE> ANIMALS AT ZOO	0.251	0.155	0.493 0.101 207		0.425	0.067	0.483 0.025 120
		Z 5.1H -1.00 -5.30				5.21 0.0 -5.71		
		***				***		

GRADE COMPARISONS: H   4.47***   L   3.26**

RESULTS FOR INDIVIDUAL ITEMS

LEVEL ? II WILL

NORMATIVE DATA

| | TOT. X BASE | | | | | | ---2ND SENTENCE--- P(VAL. P(GRAM. | |
| ITEM | N VALID R | P(W) | P(V) | P(A) | P(NT) | P(2) 2ND R) CHANGE) | |

	N VALID R	P(W)	P(V)	P(A)	P(NT)	P(2)	2ND R)	CHANGE)
Gr.3:	90 0.367 36	1.000	*0.0	*0.0	*0.0	0.500	0.444	0.125
Gr.6:	18 0.447 14	0.895	0.111	*0.0	*0.0	0.667	0.667	0.250

SENTENCE EVALUATION TEST

		------GRADE 3------			------GRADE 6------		
ITEM #	SENTENCE	1(R) 2(W) N.I N	1(R) 2(W) N.I N
17	C N-N THE CHILDREN WALKED TO THE <MILL> NEAR THE RIVER.	0.710 0.261 0.029 138	0.925 0.063 0.012 80
3	L-V BEFORE CLASS, CHILDREN OFTEN <MILL> IN THE HALLS.	0.210 0.761 0.029 135	0.300 0.700 0.0 80
		Z 4.33***	8.11***
2	L-V I HAVE TO WAIT VERY <MILL> BEFORE MOTHER COMES BACK.	0.123 0.826 0.051 138	0.087 0.912 0.0 80

GRADE COMPARISONS :   H   3.75***   L   1.43   A   1.76

HEADLINES TEST

		---------GRADE 3---------			---------GRADE 6---------		
ITEM #	HEADLINE	1(R) 2(W) 3(?) 4(NR) N	1(R) 2(W) 3(?) 4(NR) N
7	N-N FLOUR BEING MADE IN OLD <MILL>	0.111 0.343 0.242 0.304 207	0.375 0.250 0.333 0.042 120
4	L-V STUDENTS WARNED NOT TO <MILL> ON STREETS	0.043 0.406 0.072 0.478 207	0.308 0.542 0.075 0.075 120
		Z 1.74 -0.92 4.73	1.09 -4.62 4.96
		***	*** ***

GRADE COMPARISONS: H 5.67***   L 5.95***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 1 ID NAME

NORMATIVE DATA

			----DATA FROM FIRST SENTENCE WRITTEN-----					-2ND SENTENCE---		
		TOT. % BASE						P(VAL. P(GRAM.		
		N VALID N	P(N)	P(V)	P(A)	P(OT)	P(R)	2(W)	N,I	P(?) 2ND W) CHANGE)
	Gr.o 3:	102 0.559 57	0.965	*0.035	*0.0	*0.0				0.561 0.526 0.167
	Gr.o 5:	19 0.684 13	0.923	0.077	*0.0	*0.0				1.000 1.000 0.692

SENTENCE EVALUATION TEST

		------GRADE 3------				------GRADE 6------			
		1(R)	2(W)	N,I N	1(R)	2(W)	N,I N		

ITEM EM SENTENCE

1. H-S IN FIRST GRADE, YOU LEARN TO PRINT YOUR <NAME>.
0.906 0.072 0.022 139   1.000 0.0 0.0 80

2. L-V SECOND GRADERS CAN <NAME> THE DAYS OF THE WEEK.
0.848 0.094 0.058 138   0.938 0.063 0.0 80

Z   1.47   2.27*

C. A-* WE MADE THE <NAME> HORSE TOO FAST.
0.174 0.797 0.029 138   0.050 0.938 0.012 80

GRADE COMPARISONS : H 2.83**   L 1.97*   A 2.79**

HEADLINES TEST

		-------GRADE 3-------					--------GRADE 6--------				
		1(W)	2(W)	3(?)	4(NR) N	1(R)	2(W)	3(?)	4(NR) N		

ITEM EM HEADLINE

G. H-N NEW <NAME> GIVEN OLD STREET
0.159 0.198 0.309 0.333 207   0.367 0.167 0.358 0.108 120

4. L-V TEACHERS <NAME> BEST STUDENTS
0.106 0.449 0.135 0.309 207   0.483 0.333 0.150 0.033 120

Z   1.59 -5.46 4.26   -1.83 -2.98 3.71
*** ***   ** ***

GRADE COMPARISONS: H 4.26***   L 7.64***

264

D-14-

RESULTS FOR INDIVIDUAL WORDS

LEVEL 1   14 PAGE

NORMATIVE DATA

-----DATA FROM FIRST SENTENCE WRITTEN----   -2ND SENTENCE---

TOT. 4 BASE   P(VAL. P(GRAM.

N VALID N   P(N) P(V) P(A) P(OT)   P(2) 2ND K) CHANGE)

NOW N O TH GC SMCO N V A

| 7O% | 11 | 1% | 4 | 2 | 5 | -1 | 6 | GR.3: | SH 0.439 | 43 | 1.000 | *0.0 | *0.0 | *0.0 | 0.744 | 0.674 | 0.103 |
| | | | | | | | | GR.6: | 19 0.632 | 12 | 0.833 | 0.167 | *0.0 | *0.0 | 0.917 | 0.934 | 0.600 |

SENTENCE EVALUATION TEST

------GRADE 3------   ------GRADE 6------

ITEM EM   SENTENCE

1(R) 2(W) N,I   N   1(R) 2(W) N,I   N

1 4 H-S WE WILL READ EACH <PAGE> IN THE BOOK CAREFULLY

0.862 0.087 0.051 138   0.942 0.037 0.0   80

2 L-V WHEN YOU ARE LOST, SOMEONE WILL <PAGE> YOUR MOTHER.

0.297 0.667 0.036 138   0.512 0.475 0.012 80

Z 9.51***   6.47***

3 A-N FEELING ILL, THE BOY WAS VERY <PAGE>.

0.174 0.797 0.029 138   0.063 0.925 0.012 80

GRADE COMPARISONS : H 2.37*   L   H 3.16**   A   2.51*

HEADLINES TEST

------GRADE 3------   ------GRADE 6------

ITEM EM   HEADLINE

1(R) 2(W) 3(?) 4(NR) N   1(R) 2(W) 3(?) 4(NR) N

1 H-N FRONT <PAGE> OF NEWSPAPER NEEDS EDIT

0.319 0.024 0.353 0.304 207   0.708 0.008 0.242 0.042 120

2 L-V PRINCIPAL WILL <PAGE> TEACHERS OVER LOUDSPEAKER

0.111 0.444 0.097 0.348 207   0.317 0.500 0.108 0.075 120

Z 5.14-10.09 6.24   6.07 -8.75 2.72
            *** ***   ***   **

GRADE COMPARISONS: H 6.91*** L 4.60***

RESULTS FROM INDIVIDUAL WORDS

LEVEL 1   1: PRIVATE

NORMATIVE DATA

	WORD VECTOR							-----DATA FROM FIRST SENTENCE WRITTEN-----					--2ND SENTENCE---
								TOT. % BASE					P(VAL. P(GRAM.
WDM	S D TH	GC SMCO	N V A					N VALID N	P(N) P(V)	P(A) P(OT)	P(R) 2(W)	1(R) 2(W)	P(2) 2ND R) CHANGE)
476	7 1	2A 5	4 1 C 0	GM=3: 102 0.284	29 *0.069 *0.0	0.931 *0.0	0.690 0.586 0.176					
				UM*/: 10 0.895	17 0.114 *0.0	0.882 *0.0	0.824 0.706 0.083					

SENTENCE EVALUATION TEST

				------GRADE 3------		------GRADE 6------
ITEM S A	SENTENCE			1(R) 2(W) N,I N	1(R) 2(W) N,I N	

		1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
10	1 H-A THE M-A <PRIVATE> SCHOOL WILL BE OPEN NEXT YEAR.	0.775	0.203	0.022	138	0.912	0.087	0.0	80
0	L-A A <PRIVATE> WON A MEDAL DURING THE WAR.	0.522	0.457	0.022	138	0.775	0.200	0.025	80
		Z 4.41***				2.40*			
4	H-A DOGS ALWAYS <PRIVATE> THE MAILMAN.	0.246	0.710	0.043	138	0.137	0.862	0.0	80

GRADE COMPARISONS : H 2.57*   L   3.70***   A   2.56*

HEADLINES TEST

				------GRADE 3------		------GRADE 6------
ITEM EN	HEADLINE			1(R) 2(W) 3(?) 4(NR) N	1(R) 2(W) 3(?) 4(NR) N	

		1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
7	H-A <PRIVATE> SCHOOLS OPEN	0.164	0.237	0.406	0.193	207	0.283	0.300	0.342	0.075	120
3	L-% <PRIVATE> GETS MEDAL	0.145	0.237	0.237	0.382	207	0.208	0.138	0.625	0.058	120
		Z 0.54	0.0	3.68 ***			-4.39 ***	3.42 ***	1.63		

GRADE COMPARISONS: H 3.68***   L   8.96***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 1   15   SEASON

NORMATIVE DATA

		MGR VECTOR						----DATA FROM FIRST SENTENCE WRITTEN-----					--2ND SENTENCE---- P(VAL. P(GRAM.	
WD#	S O FH GC SMCO N V A						TOT. % N VALID	BASE N	P(N)	P(V)	P(A)	P(OT)	P(Z) 2ND R) CHANGE)	

	975	11 19 4 3 5 1 0												
GR.3:	98 0.367	36	1.000 *0.0	*0.0	*0.0	0.639 0.556 0.050
GR.6:	19 0.737	14	1.000 *0.0	*0.0	*0.0	0.785 0.786 0.455

SENTENCE EVALUATION TEST

ITEM FM	SENTENCE
#	
12	A WHEN THE SUMMER <SEASON> WILL BE HERE SOON.
M	L-V SALT IS USED TO <SEASON> MANY FOODS.
G	A-N THE <SEASON> DRESS WAS VERY PRETTY.

	------GRADE 3------				------GRADE 6------			
	1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
	0.841	0.116	0.043	138	0.938	0.063	0.0	80
	0.623	0.341	0.036	138	0.800	0.138	0.012	80
Z	4.08***				2.58*			
	0.464	0.507	0.029	138	0.350	0.637	0.012	80

GRADE COMPARISONS :   H   2.09*   L   2.72**   A   1.87

HEADLINES TEST

ITEM FM	HEADLINE
#	
A	A-N SUMMER <SEASON> APPROACHES
M	L-V SALT USED TO <SEASON> FOOD

	------GRADE 3------				------GRADE 6------			
	1(R)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
	0.145	0.082	0.570	0.203	207	0.392	0.058	0.475	0.075	120
	0.415	0.232	0.135	0.217	207	0.825	0.042	0.100	0.033	120
Z	-6.13 -4.19 9.26 *** *** ***					-6.88 0.59 6.42 *** ***			

GRADE COMPARISONS: H   5.07***   L   7.20***

PESULTS FOR INDIVIDUAL WORDS

LEVEL 1 1: SIGHT

NORMATIVE DATA

		WOF VECTOR					-----DATA FROM FIRST SENTENCE WRITTEN-----					--2ND SENTENCE--
WOR	S O TH	GC S N V A			TOT. % VALID	BASE N	P(N)	P(V)	P(A)	P(OT)	P(VAL. PIGRAM. P(2) 2ND R) CHANGE)

ICLS 1 1 1A 4 1 9 1 0	GP.3: 102 0.490	50	0.925	*0.080	*0.0	*0.0	0.780	0.640	0.0
	GR.6: 17 0.882	15	1.000	*0.0	*0.0	*0.0	0.367	0.867	0.077

SENTENCE EVALUATION TEST

------GRADE 3------ ------GRADE 6------

ITEM NO	SENTENCE	1(P)	2(M)	N.I	N	1(R)	2(W)	N.I	N
20 C	M-N THE VALLEY WAS A PRETTY <SIGHT> FROM THE HILL.	0.812	0.167	0.022	138	0.912	0.063	0.025	80
4	L-V IF YOU ARE LUCKY, YOU WILL <SIGHT> A NEW STAR.	0.405	0.543	0.051	139	0.575	0.425	0.0	80
		Z	6.51***				4.89***		
9	A-B WHENEVER I HUN, I GET A <SIGHT> HEAD.	0.174	0.804	0.022	139	0.063	0.925	0.012	80

GRADE COMPARISONS : H 2.00* L 2.41* A 2.40*

HEADLINES TEST

------GRADE 3------ ------GRADE 6------

ITEM NO	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
15 4	<SIGHT> GIVEN TO BLIND BOY	0.304	0.116	0.159	0.420	207	0.750	0.067	0.100	0.083	120
9	L-V PEOPLE <SIGHT> NEW COMET IN SKY	0.507	0.039	0.121	0.333	207	0.783	0.017	0.142	0.058	120
		Z	-4.20 ***	2.94 **	1.13			-0.61	1.94	-0.59	

GRADE COMPARISONS: H 7.78*** L 4.93***

268

-D18-

PESULTS FOR INDIVICUAL WORDS

LEVEL 1   17 SKIRT

NORMATIVE DATA

```
                                             -----DATA FROM FIRST SENTENCE WRITTEN-----    --2ND SENTENCE---
                                             TOT.  %  BASE                                  P(VAL. P(GRAM.
                    WRD  S D TU  GC SMCG N G A  N  VALID  N   P(N)  P(V)  P(A)  P(UT)  P(2; 2ND R) CHANGE)
                    1023  1 1  2A  4   4   7  3  0  GR.3:  98  0.510  50  0.946 *0.060 *0.0  *0.0   0.640 0.620 0.032
                                                    GR.6:  19  0.895  17  0.941  0.059 *0.0  *0.0   0.588 0.412 0.429
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SENTENCE EVALUATION TEST

```
                                            ------GRADE 3------              ------GRADE 6------
ITEM FM    SENTENCE                         1(R)  2(W)   N,I    N        1(R)  2(W)   N,I    N
   #
15  C  H-N  I LIKE MY MOTHER'S RED <SKIRT> THE HEST.      0.819 0.152 0.029 138   0.925 0.050 0.025  80
    A  L-V  OUR TEACHER WILL <SKIRT> THE PROBLEM FOR NOW.  0.159 0.790 0.051 138   0.137 0.862 0.0    80
                                                   Z  10.96***                     9.98***
    B  A-*  WHEN WINTER COMES, WE CAN PLAY ON THE <SKIRT> SNOW.  0.297 0.681 0.022 138   0.053 0.938 0.0    80

GRADE COMPARISONS :  H   2.16*     L  -0.44     A   4.37***
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HEADLINES TEST

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                                            ------GRADE 3------              ------GRADE 6------
ITEM FM    HEADLINE                         1(R)  3(?)  4(NR)   N        1(R)  2(W)  3(?)  4(NR)  N
   #
12  A  H-N  WOMAN GETS <SKIRT> CAUGHT IN BUS DOOR    0.309 0.275 0.145 0.271 207   0.525 0.300 0.125 0.050 120
    A  L-V  LEADERS <SKIRT> IMPORTANT PROBLEMS        0.005 0.329 0.155 0.512 207   0.053 0.617 0.125 0.200 120
                                         Z  8.51 -1.18 -0.28               7.95 -4.92  0.0
                                            ***                           ***   ***

GRADE COMPARISONS:   R  3.86***   L   3.02**
```

RESULTS FOR INDIVIDUAL WORDS

LEVEL 1   18   STRANGER

NORMATIVE DATA

WGF VECTOR
WD#   S   O   TH   GC SMCC   N   V   A

	----DATA FROM FIRST SENTENCE WRITTEN----						--2ND SENTENCE----		
	TOT. %	BASE							P(VAL.	P(GRAM.
	N VALID	N	P(N)	P(V)	P(A)	P(OT)	P(Z)	2ND R)	CHANGE)
1084 1 1 2d 5 1 9 0 -1 GR.3:	102 0.480	49	0.898	*0.0	*0.102	*0.0	0.837	0.755	0.216
GR.6:	17 0.882	15	0.933	*0.0	0.067	*0.0	0.867	0.800	0.750

SENTENCE EVALUATION TEST

			------GRADE 3------				------GRADE 6------			
ITEM #	FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
5	G H-N	HE WAS A <STRANGER> IN OUR TOWN.	0.797	0.188	0.014	138	0.950	0.037	0.012	80
9	L-A	I NEVER HEARD A <STRANGER> STORY	0.362	0.623	0.014	138	0.438	0.563	0.0	80
			Z	7.32***			7.03***			
A	A-*	CAN YOU <STRANGER> IT?	0.181	0.783	0.036	138	0.125	0.875	0.0	80

GRADE COMPARISONS :   H   3.07**   L   1.10   A   1.70

HEADLINES TEST

			------GRADE 3------					------GRADE 6------				
ITEM #	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
2C	3 H-N	<STRANGER> FOUND DEAD	0.121	0.261	0.217	0.401	207	0.192	0.292	0.083	120
4	L-A	MAN TELLS OF <STRANGER> THINGS TO HAPPEN	0.058	0.237	0.159	0.546	207	0.433	0.358	0.108	0.117	120
			Z	2.24	0.57	1.51		0.417	0.26	-2.89	3.55	
				*						**	***	

GRADE COMPARISONS: H   6.42***   L   7.98***

RESULTS FOR INDIVIDUAL WORDS

VEL : 19 TAKE

NORMATIVE DATA

					-----DATA FROM FIRST SENTENCE WRITTEN-----						--2ND SENTENCE---	
	WGF VECTOR				TOT. % BASE						P(VAL. P(GRAM.	
WJ*	S D TH	GC SMCC	N V A		N VALID	N	P(N)	P(V)	P(A)	P(OT)	P(?) 2ND X) CHANGE)	
1116	1 1	1A 4	1 -1 9 0	GP-3:	102 0.382	39	*0.026	0.974	*0.0	*0.0	0.667 0.642 0.0	
				GR-6:	17 0.706	12	*0.0	1.000	*0.0	*0.0	0.583 0.583 0.0	

SENTENCE EVALUATION TEST

		------GRADE 3-------			------GRADE 6-------		
ITEM FM #	SENTENCE	1(R) 2(W)	N.I	N	1(R) 2(W)	N.I	N
1 B	H-V CUR CLASS WILL <TAKE> A TRIP TO THE ZOO.	0.826 0.167	0.007	138	0.925 0.075	0.0	80
A	L-N THE HUNTERS RETURNED WITH A BIG <TAKE>.	0.232 0.739	0.029	138	0.200 0.800	0.0	80
		Z 9.89***			9.24***		
C A-*	HE WENT FOR A TRIP IN A <TAKE> BUS.	0.167 0.826	0.007	138	0.025 0.962	0.012	80

GRADE COMPARISONS : H 2.04*   L -0.55   A 2.95**

HEADLINES TEST

		------GRADE 3-------				------GRADE 6-------			
ITEM FM #	HEADLINE	1(R) 2(W) 3(?) 4(NR)			N	1(R) 2(W) 3(?) 4(NR)			N
16 B	H-V CHILDREN <TAKE> TRIP TO CITY	0.483 0.097 0.179 0.242			207	0.642 0.033 0.283 0.042			120
A	L-N HUNTERS RETURN WITH BIG <TAKE>	0.329 0.179 0.101 0.391			207	0.683 0.150 0.058 0.108			120
		Z 3.20 -2.42 2.27				-0.68 -3.13 4.63			
		** * *				** ***			

GRADE COMPARISONS: H 2.77** L 6.21***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 1   20   TRAIN

NORMATIVE DATA

		MGF VECTOR											----DATA FROM FIRST SENTENCE WRITTEN----							--2ND SENTENCE--- P(VAL. P(GRAM.		
NO*	S	U	TH	GC	S*CD	N	V	A					TOT. N	% VALID	BASE N	P(N)	P(V)	P(A)	P(OT)	P(2)	2ND R:	CHANGE)
1153	2	I	1A	4	4	7	3	0	GR.3:	102	0.618	63				0.921	*0.079	*0.0	*0.0	0.714	0.666	0.286
									GR.6:	17	0.765	13				0.846	0.154	*0.0	*0.0	0.923	0.923	0.667

SENTENCE EVALUATION TEST

				------GRADE 3------				------GRADE 6------			
ITEM	FM		SENTENCE	1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
16	C	H-N	MARY TOOK THE <TRAIN> TO NEW YORK.	0.825	0.152	0.022	138	0.887	0.100	0.012	80
3		L-V	I WILL TRY TO <TRAIN> MY BIRD TO TALK.	0.616	0.341	0.043	138	0.800	0.188	0.012	80
				Z 3.89***				Z 1.52			
4		A-*	WE USED A <TRAIN> PIECE OF STRING TO TIE THE BOX.	0.261	0.696	0.043	138	0.162	0.837	0.0	80

GRADE COMPARISONS :   H 1.22   L   2.82**   A   2.32*

HEADLINES TEST

				------GRADE 3------					------GRADE 6------				
ITEM	FM		HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
14	B	H-N	<TRAIN> CRACKS UP OUTSIDE OF CITY	0.179	0.159	0.217	0.444	207	0.450	0.133	0.308	0.108	120
	A	L-V	BOY ABLE TO <TRAIN> OLD DOG NEW .RICKS	0.517	0.039	0.101	0.343	207	0.792	0.050	0.133	0.025	120
			Z	-7.22	4.11	3.22			-5.45	2.24	3.27		
				***	***	**			***	*	**		

GRADE COMPARISONS: K 5.28***   L   4.93***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 1   21 WISH

NORMATIVE DATA

	MGE VECTOR					---DATA FROM FIRST SENTENCE WRITTEN---						--2ND SENTENCE--- P(VAL. P(GRAM.
WD#	S O TH GE SWCC N V A					TOT. # BASE VALID N	P(N)	P(V)	P(A)	P(OT)		P(Z) 2ND R) CHANGE)
1245	3 1 1A 4	1	2	E	C	GR.3: 98 0.337	33 *0.061	0.939 *0.0	*0.0		0.697 0.667 0.182
						Gr.6: 19 0.579	11 0.182	0.818 *0.0	*0.0		0.727 0.727 0.750

SENTENCE EVALUATION TEST

			------GRADE 3------			------GRADE 6------		
ITEM FM	SENTENCE	1(R) 2(W)	N,I	N	1(R) 2(W)	N,I	N
21 A H-V	THEY WERE TOLD TO ONLY <WISH> FOR GOOD THINGS.	0.812 0.159	0.029	138	0.837 0.100	0.012	80
C L-?	IF I COULD HAVE ONLY ONE <WISH>, I WOULD BE HAPPY.	0.855 0.123	0.022	138	0.962 0.012	0.025	80
		Z -0.97			-1.90		
B A-*	BOB, <WISH> ONE SO YOU WANT. (SIC)	0.269 0.688	0.043	138	0.063 0.938	0.0	80
	GRADE COMPARISONS :	H 1.47	L		2.49*	A	4.28***

HEADLINES TEST

			------GRADE 3------			------GRADE 6------		
ITEM FM	HEADLINE	1(R) 2(W)	3(?) 4(NR)	N	1(R) 2(W)	3(?) 4(NR)	N
13 A H-V	STUDENTS <WISH> SCHOOL YEAR OVER	0.440 0.135	0.121 0.304	207	0.725 0.117	0.133 0.025	120
B L-N	<WISH> COMES TRUE FOR HAPPY FAMILY	0.179 0.256	0.198 0.367	207	0.517 0.192	0.233 0.058	120
		Z 5.74 -3.10	-2.15		3.33 -1.61	-2.00	
		*** **	*		***	*	
	GRADE COMPARISONS:	H 4.99***	L		4.99***	L	6.41***

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RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   1 APPEAL

NORMATIVE DATA

	MGF VECTOR								
WD#	S	D	TH	GC	S MCD	N	V	A	
67	2	3	3A	4	1	5	5	0	

	----DATA FROM FIRST SENTENCE WRITTEN-----						---AND SENTENCE---		
	TOT. % BASE N VALID N		P(N)	P(V)	P(A)	P(OT)	P(VAL. 2ND R)	P(GRAM. R)	P(2) CHANGE)
Gr.6:	13? 0.507 70		*0.114	0.886	*0.0	*0.0	0.571	0.443	0.323
GR.9:	97 0.577 56		0.357	0.643	*0.0	*0.0	0.821	0.768	0.558

SENTENCE EVALUATION TEST

		------GRADE 6------				------GRADE 9------			
ITEM FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
# 5 C	H-N THE MAN HAD GREAT <APPEAL> FOR THE CHILDREN.	0.688	0.304	0.009	112	0.733	0.256	0.011	90
# A	L-N WE MUST MAKE AN <APPEAL> FOR FAIRNESS.	0.723	0.277	0.0	112	0.867	0.133	0.0	90
		Z	-0.59				-2.24*		
# B A-#	THE HUMAN WOKE A VERY <APPEAL> HAT.	0.295	0.705	0.0	112	0.167	0.822	0.011	90

GRADE COMPARISONS : H 0.71   L 2.49*   A 1.93

HEADLINES TEST

		------GRADE 6------					------GRADE 9------				
ITEM FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
# 18 A	H-V CRIMINAL TO <APPEAL> COURT SENTENCE	0.042	0.595	0.161	0.202	168	0.296	0.496	0.096	0.111	135
# A	L-N NEW AUTO HAS <APPEAL> FOR MANY	0.440	0.238	0.190	0.131	168	0.674	0.091	0.141	0.104	135
		Z	-8.55 ***	6.64 ***	-0.72		-6.21 ***	7.52 ***	-1.13		

GRADE COMPARISONS: H 6.09***   L 4.06***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   2   MOTHER

NORMATIVE DATA

		MGF VECTOR			-----DATA FROM FIRST SENTENCE WRITTEN-----				--2ND SENTENCE--
					TOT. % BASE				P(VAL. P(GRAM.
FOM	S O TH	GC SMCO N V A			N VALID N	P(N) P(V) P(A) P(TOT)			P(2) 2ND A) CHANGE)
162	2 1 4A 4	1 G 0	GR.6:	126 0.754	95 *0.095 0.905 *0.0 *0.0			0.811 0.769 0.315
			GR.9:	102 0.676	69 *0.116 0.884 *0.0 *0.0			0.768 0.768 0.528

SENTENCE EVALUATION TEST

			------GRADE 6-------				------GRADE 9-------		
ITEM FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
12 A	H-V	THE NOISY JETS ALWAYS <BOTHER> THAT FARMER'S CATTLE.	0.875	0.125	0.0	112	0.889	0.111	0.0	90
B L-N	THE FARMERS DISCUSSED THE <BOTHER> FROM THE JETS.	0.473	0.527	0.0	112	0.422	0.578	0.0	90
		Z	6.41***				6.59***		
C A-*	THE <BOTHER> JETS ANGERED THE FARMERS.	0.089	0.902	0.009	112	0.044	0.944	0.011	90

GRADE COMPARISONS : H 0.30   L -0.72   A 1.12

HEADLINES TEST

			------GRADE 6-------				------GRADE 9-------		
ITEM FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
5 A	H-V NOISY PLANES <BOTHER> FARMERS	0.494	0.196	0.232	0.077	168	0.726	0.148	0.089	0.037	135
B L-N	FARMERS DISCUSS <BOTHER> FROM NOISY JETS	0.393	0.274	0.268	0.065	168	0.570	0.207	0.148	0.074	135
		Z	1.87	-1.67	-0.76			2.68	-1.27	-1.51	
								**		

GRADE COMPARISONS: H   4.09***   L   3.08**

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   3   BUBBLE

NORMATIVE DATA

```
              "GF VECTOR
    ADD  S  D  TH  GC SMCC  N  V  A
    275  1  1  2A  4      1  7  3  0    GK.6:
                                        GK.9:
```

-----DATA FROM FIRST SENTENCE WRITTEN-----   --2ND SENTENCE--
                                                        P(VAL. P(GRAM.
TOT. * MASE
N VALID N   P(N)   P(V)   P(A)   P(OT)   P(2) 2ND R) CHANGE)

	N VALID	N	P(N)	P(V)	P(A)	P(OT)	P(2) 2ND R)	CHANGE
GK.6:	141 0.936	132	0.970	*0.030	*0.0	*0.0	0.894 0.833	0.118
GK.9:	106 0.840	89	0.921	*0.067	*0.011	*0.0	0.798 0.787	0.314

SENTENCE EVALUATION TEST

```
                                  ------GRADE 6------    ------GRADE 9-------
ITEM FM   SENTENCE                1(R)  2(W)  N.I   N     1(R)  2(W)  N.I   N
  #
16  C  M-N  THE ARTIST BLEW A <BUBBLE> OUT OF GLASS.
                                  0.857 0.143 0.0   112   0.911 0.078 0.011 90

    A  L-V  THE BOILING OIL TANKS ARE ABOUT TO <BUBBLE> OVER.
                                  0.741 0.259 0.0   112   0.856 0.133 0.011 90

                                  Z  2.17*                1.16

 3  A-*  HE HAD A VERY <BUBBLE> LOOK ABOUT HIM.
                                  0.170 0.813 0.018 112   0.267 0.722 0.011 90

GRADE COMPARISONS :   H   1.18   L               1.99*   A   -1.52
```

HEADLINES TEST

```
                                  --------GRADE 5---------    --------GRADE 9---------
ITEM FM   HEADLINE                1(R)  2(W)  3(?)  4(NR)  N  1(R)  2(W)  3(?)  4(NR)  N
  #
21  B  M-N  ARTIST BLOWS GLASS <BUBBLE> FOR VISITOR
                     0.351 0.179 0.363 0.107 168  0.311 0.111 0.422 0.156 135

    A  L-V  BOILING OIL TANKS <BUBBLE> OVER
                     0.696 0.006 0.167 0.131 168  0.830 0.030 0.074 0.067 135

                Z  -6.34  5.47  4.08           -8.61  2.62  6.62
                   ***   ***   ***             ***   **   ***

GRADE COMPARISONS:   H  -0.74   L               2.68**
```

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   4   BUY

NORMATIVE DATA

-----DATA FROM FIRST SENTENCE WRITTEN-----   --2ND SENTENCE---
                                                    P(VAL. P(GRAM.
TOT. % BASE   P(2) 2ND X) CHANGE)
N VALID N   P(N)   P(V)   P(A)   P(OT)

MGF VECTOR
WDM S 2 TH GC SMCD N V A

142 21 3A 4   1   1   9   0   GR.6: 13R 0.849 124 *0.040 0.960 *0.0 *0.0   0.871 0.670 0.169

GR.9: 97 0.804   78 *0.064 0.935 *0.0 *0.0   0.679 0.576 0.356

SENTENCE EVALUATION TEST

                                        ------GRADE 6------   ------GRADE 9------
ITEM FM   SENTENCE   1(R) 2(W)   N,I   N   1(R) 2(W) N,I   N
#
>G i M-V MY MOTHER WILL <BUY> THAT NEW GAME FOR ME.   0.938 0.063 0.0 112   0.967 0.033 0.0   90

H   L-N THERE IS A BIG <BUY> AT THE STORE TODAY.   0.768 0.214 0.018 112   0.878 0.122 0.0   90

                                        Z   3.58***   2.23*

C   A-* THE TEACHER GAVE US A <BUY> BOOK TO USE.   0.107 0.893 0.0 112   0.056 0.933 0.011 90

GRADE COMPARISONS : H   0.95   L   2.01*   A   1.00

HEADLINES TEST

                                        ------GRADE 6------   ------GRADE 9------
ITEM FM   1(R) 2(W) 3(P) 4(NR) N   1(R) 2(W) 3(P) 4(NR) N
12 A H-V ...RTERS <BUY> NEW PRODUCT 0.244 0.464 0.244 0.048 168   0.526 0.326 0.096 0.052 135

B   L-A BIG <BUY> AT LOCAL STORE   0.768 0.042 0.137 0.054 168   0.830 0.022 0.104 0.044 135

                                        Z -9.60 8.91 2.50   -5.34 6.58 -0.20
                                           ***   ***   *   ***   ***

GRADE COMPARISONS: H   5.05***   L   1.32

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RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

LEVEL 2   5 CHANNEL

		-----DATA FROM FIRST SENTENCE WRITTEN-----					--2ND SENTENCE---
		TOT. & BASE						P(VAL. P(GRAM.
"GF VECTOR	N VALID N	P(N)	P(V)	P(A)	P(OT)	P(R)	2(W)	N.I	P(2) 2ND R) CHANGE)
N= S D TH GC SMCO N V A									
207 1 3 38 4 1 0 GP.6: 141 0.766 108	1.000 *0.0 *0.0 *0.0				0.833 0.824 0.011
GR.9: 106 0.670 74	0.972 *0.028 *0.0 *0.0				0.845 0.817 0.138

SENTENCE EVALUATION TEST

| | | -------GRADE 6------- | | | ------GRADE 9------- | |
ITEM FM SENTENCE | 1(R) 2(W) N.I | N | 1(R) 2(W) N.I | N

? 4 H-N THE SHIP ENTERED THE <CHANNEL> WITH ITS GUNS FIRING. 0.777 0.223 0.0 112 0.911 0.089 0.0 90

4 L-V THE BOY DECIDED TO <CHANNEL> HIS WORK TOWARD BETTER GRADES. 0.339 0.643 0.018 112 0.533 0.467 0.0 90

7 6.59***   5.66***

6 A-* HERE IS A CHILD WHO APPEARS QUITE <CHANNEL>. 0.170 0.830 0.0 112 0.200 0.789 0.011 90

GRADE COMPARISONS : H 2.57** L 2.77** A -0.75

HEADLINES TEST

| | | -------GRADE 6------- | | | ------GRADE 9------- | |
ITEM FM HEADLINE | 1(R) 2(W) 3(?) 4(NR) | N | 1(R) 2(W) 3(?) 4(NR) | N

15 4 H-N SWIMMER CROSSES <CHANNEL> IN RECORD TIME 0.310 0.357 0.250 0.083 168 0.474 0.311 0.141 0.074 135

4 L-V SPACE TEAM TO <CHANNEL> EFFORTS TOWARDS MARS 0.107 0.571 0.167 0.155 168 0.304 0.467 0.104 0.126 135

Z 4.57 -3.94 1.88 2.87 -2.62 0.93
*** *** ** **

GRADE COMPARISONS: H 2.93** L 4.29***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   4 DRUG

NORMATIVE DATA

		MGF VECTOR						-----DATA FROM FIRST SENTENCE WRITTEN-----						--2ND SENTENCE-----
						TOT. % BISS										PIVAL. PIGRAM.
WD#	S D TH	GC SMCO N V A				N VALID N	P(N)	P(V)	P(A)	P(UT)	P(R) 2(W) 1(R)			P(2) 2ND R; CHANGE)
348	2 1 30 4	1 9 1 0	GR.6:	138 0.783	108	0.963 *0.037 *0.0				*0.0				0.954 0.889 0.156
			GR.9:	97 0.639	62	0.806 0.194 *0.0				*0.0				0.823 0.726 0.467

SENTENCE EVALUATION TEST

------GRADE 6------   ------GRADE 9------

ITEM FV	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
#									
IN A H-N	THE DOCTORS WILL TEST THE NEW <DRUG> SOON.	0.946	0.045	0.009	112	1.000	0.0	0.0	90
C L-V	THE DOCTORS WILL <DRUG> SOME ANIMALS IN THE TEST.	0.670	0.313	0.018	112	0.867	0.122	0.011	90
		Z	5.26***				3.59***		
A A-M	HER <DRUG> DRESS COST LESS THAN MINE.	0.071	0.920	0.009	112	0.044	0.956	0.0	90

GRADE COMPARISONS :   H   2.23*   L   3.25**   A   1.03

HEADLINES TEST

-------GRADE 6-------   -------GRADE 9-------

ITEM EM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
#											
10 A H-N	NEW <DRUG> TESTED	0.613	0.143	0.105	0.054	168	0.600	0.200	0.141	0.059	135
A L-V	DOCTORS <DRUG> ANIMALS IN TEST	0.349	0.202	0.345	0.083	168	0.504	0.244	0.156	0.096	135
		Z	4.59	-1.44	-3.34		1.59	-0.88	-0.34		
			***		***						

GRADE COMPARISONS: H   -0.34   L   2.35*

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   7   HEDGE

NORMATIVE DATA

		MGF VECTOR							----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE--		
									TOT. % BASE					P(VAL. PROGRAM.		
	WD#	S	O	TH	GC	SMCO	N	V	A	N VALID	N	P(N)	P(V)	P(A)	P(GT)	P(2) 2ND 2) CHANGE)
	441	1	3	3A	4	2	9	1	0	GR.6: 126	0.627	79	0.924	*0.076	*0.0	*0.0	3.620	0.494	0.308
										GR.9: 102	0.667	68	0.941	*0.059	*0.0	*0.0	0.632	0.529	0.572

SENTENCE EVALUATION TEST

			-------GRADE 6-------				-------GRADE 9-------		
ITEM	FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
12	A	H-N	THE GARDENER CAME TO CUT THE <HEDGE>.	0.929	0.063	0.009	112	0.878	0.122	0.0	90
	C	L-V	THE MAYOR TRIED TO <HEDGE> HIS ELECTION PROMISES.	0.393	0.607	0.0	112	0.490	0.578	0.022	90
				Z 8.67***				6.67***			
	D	A-*	THE NEW CAR WAS A <HEDGE> FAST ONE ON CORNERS.	0.125	0.875	0.0	112	0.122	0.867	0.011	90

GRADE COMPARISONS : H -1.23   L 0.10   A -0.23

HEADLINES TEST

			--------GRADE 6--------				--------GRADE 9--------		
ITEM	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
4	B	H-N	MAN TO CUT <HEDGE>	0.595	0.143	0.196	0.065	168	0.681	0.111	0.163	0.044	135
	A	L-V	MAYORS <HEDGE> ELECTION PROMISES	0.042	0.625	0.173	0.161	163	0.207	0.474	0.089	0.230	135
				Z 10.09	-9.09	0.56			7.84	-6.95	1.83		
				***	***				***	***		

GRADE COMPARISONS: H   1.55   L   4.49***

LEVEL 2 - HUM

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

	WD#	S	D	TH	GG	SMCO	MGF VECTOR N	V	A
	511	11	1	3R	4	1 -	6	0	

------DATA FROM FIRST SENTENCE WRITTEN------

	TOT. & BASE N VALID N	P(N)	P(V)	P(A)	P(TOT)	--2ND SENTENCE-- P(VAL. P(GRAM. P(2) 2ND %) CHANGE)
GR.6:	141 0.738 104	*0.058	0.942	*0.0	*0.0	0.917 0.712 0.270
GR.9:	106 0.764 81	0.222	0.778	*0.0	*0.0	0.667 0.630 0.373

SENTENCE EVALUATION TEST

ITEM #	FM	SENTENCE	------GRADE 6------				------GRADE 9------			
			1(R) 2(W)	N,I	N	1(R) 2(W)	N,I	N
6	C	H-V WE WERE ASKED TO <HUM> ALONG AS TEACHER SANG A SONG.	0.866 0.134	0.0	112	0.933 0.067	0.0	90
7		L-N THERE WAS A LOUD <HUM> WHEN THE LIGHT OVERHEAD WENT OUT.	0.786 0.205	0.009	112	0.856 0.133	0.011	90
			Z 1.59			Z 1.70		
4	A-*	IT WAS VERY <HUM> AFTER HIS SPEECH.	0.170 0.830	0.0	112	0.134 0.867	0.0	90

GRADE COMPARISONS : H 1.56 L 1.29 A 0.71

HEADLINES TEST

ITEM #	FM	HEADLINE	------GRADE 6------				------GRADE 9------			
			1(F) 2(W)	3(?) 4(NR)	N	1(R) 2(W)	3(?) 4(NR)	N
15	B	H-V CHILDREN <HUM> ALONG WITH SINGING GROUP	0.637 0.143	0.131 0.089	168	0.630 0.111	0.126 0.133	135
4		L-N LOUD <HUM> HEARD NEAR POWER PLANT	0.577 0.119	0.185 0.119	169	0.748 0.059	0.104 0.089	135
			Z 1.12 0.65 -1.35			Z -2.10 1.53 0.57		
						*		

GRADE COMPARISONS: H -0.13 L 3.10**

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   9 INCENSE

NORMATIVE DATA

```
                                          -----DATA FROM FIRST SENTENCE WRITTEN-----    --2ND SENTENCE--
                                          TOT. % BASE                                          P(VAL. P(GRAM.
                  AGE VECTOR              N  VALID  N   P(N)   P(V)   P(A)   P(OT)   P(2) 2ND X) CHANGE)
        WDH  S O TH  GO SMCG A  V  A
        524    1  4  41   2   3   5   5  0   GR.6: 141 0.254  29  1.000 *0.0  *0.0  *0.0  0.517 0.448 0.0
                                            GR.9: 106 0.462  49  0.936 *0.020 *0.0  *0.0  0.510 0.469 0.174
```

SENTENCE EVALUATION TEST

```
                                                         -------GRADE 6-------    -------GRADE 9-------
ITEM FM   SENTENCE                                        1(R) 2(W) 3(7) 4(NR)  N   1(R) 2(W) 3(7) 4(NR) N
  #
  1  A  M-N  LAST WEEK, I MU-NED <INCENSE> IN CHURCH.     0.536 0.455 0.009 112  0.922 0.178 0.0  90
  B  L-V  GUE ACTIONS WILL <INCENSE> YOUR MOTHER, BOH.    0.535 0.464 0.0   112  0.322 0.644 0.033 90
                                                    Z  0.0                    6.78***
  C  A-#  THERE IS AN <INCENSE> INTEREST RATE AT THE BANK. 0.394 0.607 0.009 112  0.344 0.644 0.011 90

                             GRADE COMPARISONS :  H  4.28***  N   L  -3.04***  A   0.54
```

HEADLINES TEST

```
                                                         -------GRADE 6-------    -------GRADE 9-------
ITEM FM   HEADLINE                                       1(R) 2(W) 3(7) 4(NR)  N   1(R) 2(W) 3(7) 4(NR) N
  #
 14  A  M-N  <INCENSE> BURNS DURING ROCK FEST.VAL        0.256 0.238 0.256 0.250 168  0.681 0.178 0.141 0.200 135
  B  L-V  STUDENTS <INCENSE> POLICE                      0.065 0.589 0.173 0.173 168  0.163 0.422 0.163 0.252 135
                                                    Z  4.75 -6.54 1.86         5.60 -4.38 -0.51
                                                       ***  ***              ***  ***

                             GRADE COMPARISONS:  H  4.07***  L   2.71**
```

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

LEVEL 2   10   KNOT

							----DATA FROM FIRST SENTENCE WRITTEN-----							--2ND SENTENCE--- PIVAL. P(GRAM.
A'S	S U TH GC SMCO	OF VECTOR N V A				TOT. N	X BASE VALID N	P(N)	P(V)	P(A)	P(OT)	P(2)	2ND R)	CHANGE)
577	11 3H 4	3 C			GR.6:	128	0.802 101	0.980	*0.220	*0.0	*0.0	0.792	0.703	0.197
					GR.9:	102	0.686 70	0.971	0.129	*0.0 C	*0.0	0.800	0.743	0.404

SENTENCE EVALUATION TEST

ITEM FM	SENTENCE	------GRADE 6------				------GRADE 9------			
		1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
B H N	A...Y, THE WAS LOOKED AT THE \<KNOT\> IN HIS FISHING LINE.	0.759	0.232	0.009	112	0.800	0.189	0.011	90
C L-V	HE MUST BE CAREFUL TO \<NOT\> THE ROPE VERY TIGHT V.	0.813	0.188	0.0	112	0.778	0.211	0.011	90
		Z -0.98				0.37			
A A-*	I AM \<KNOT\> THE RIGHT PERSON.	0.116	0.884	0.0	:12	0.067	0.933	0.0	90

GRADE COMPARISONS :   H   0.70   L   -0.61   A   1.20

HEADLINES TEST

ITEM FM	HEADLINE	------GRADE 6------				------GRADE 9------			
		1(R)	2(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
16 H-N	\<KNOT\> IN TRAFFIC SLOWS TRAVELERS	0.506	0.238	0.161	168	0.622	0.200	0.096	0.081	135
A L-V	SAILORS LEARN TO \<KNOT\> ROPE MANY WAYS	0.655 0.049	0.220	0.077	149	0.330 0.055	0.067	0.044	135
		L -2.76 4.99	-1.39			-3.82 3.44	0.99	2.03*	
		** ***				*** ***		***	

GRADE COMPARISONS: H   2.03*   L   3.42***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   11   MOTOR

NORMATIVE DATA

```
                                              -----DATA FROM FIRST SENTENCE WRITTEN-----    --2ND SENTENCE---
                       MGF VECTOR              TOT. %  BASE                                     P(VAL. P(GRAM.
            WD#  S  O  TH  GC  S V G N  N  V  A   N VALID  N    P(V)   P(V)   P(A)   P(OT)     P(2) 2ND P) CHANGE)

            713  11  4A  4   1  8 2 0   0     GR.6: 13P  0.739  102   0.990  *0.0   *0.010 *0.0     0.735  0.656  0.045

                                              GR.9:  97  0.443   43   0.953 *0.047 *0.047 *0.0      0.767  0.627  0.222
```

SENTENCE EVALUATION TEST

```
                                                     ------GRADE 6------         ------GRADE 9------
ITEM FM   SENTENCE                                 1(R)  2(W)   N,I    N        1(R)  2(W)   N,I    N
#
17   A  H-N  THE DRIVER FIXED THE <MOTOR> OF HIS CAR.   0.920 0.080  0.0   112   0.944 0.056  0.0    90

     C  L-V  MANY FAMILIES <MOTOR> TO THE BEACH IN THE SUMMER.  0.161 0.839 0.0  117   0.322 0.667 0.011  90

                                                    Z  11.40***                 Z  8.65***

     B  A-*  THE TREE GREW VERY <MOTOR> IN THE RAIN.   0.125 0.857 0.018  112   0.100 0.900 0.0    90

                                   GRADE COMPARISONS :   H   0.69   L          H   2.70**    A    0.92
```

HEADLINES TEST

```
                                                     ------GRADE 6------         ------GRADE 9------
ITEM FM   HEADLINE                                1(R)  2(W)  3(?) 4(NR)  N     1(R)  2(W)  3(?) 4(NR)  N
#
Q    A  H-N  DRIVER GETS <MOTOR> FIXED              0.476 0.244 0.238 0.042 168   0.704 0.170 0.074 0.052 135

     E  L-V  MORE PEOPLE <MOTOR> IN SUMMER          0.446 0.296 0.137 0.131 168   0.578 0.237 0.096 0.089 135

                                                 Z  0.55  -0.87  2.38            Z  2.16  -1.36  -0.65
                                                                  *                            *

                                   GRADE COMPARISONS:  H   3.99***   L          H   2.27*
```

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   12   PLANE

NORMATIVE DATA

	WDW	S	D	TH	GC	SMCC	MGF VECTOR N	V	A		-----DATA FROM FIRST SENTENCE WRITTEN----- TOT. X BASE N VALID N	P(N)	P(V)	P(A)	P(OT)	--2ND SENTENCE--- P(VAL. P(GRAM. P(2) 2ND R) CHANGE)
	627	2	1	48	4	3	9	1	0	GR.6: 125 0.841 106	0.981 *0.019 *0.0	*0.0	0.944 0.576 0.016
										GR.9: 102 0.673 89	0.944 *0.056 *0.0	*0.0	0.888 0.663 0.119

SENTENCE EVALUATION TEST

			------GRADE 6-------				------GRADE 9-------			
ITEM #	FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
2	R	H-N	THE PILOT TESTED THE NEW <PLANE>.	0.955	0.045	0.0	112	0.967	0.033	0.0	90
A	L-V	THE WORKERS HAD TO <PLANE> THE NEW DOORS.	0.286	0.714	0.0	112	0.544	0.456	0.0	90
			Z 10.33***				6.59***			
C	A-*	THE <PLANE> CAR WAS FULL OF PEOPLE.	0.143	0.857	0.0	112	0.167	0.822	0.011	90

GRADE COMPARISONS : H   0.41   L   3.73***   A   -0.68

HEADLINES TEST

			------GRADE 6-------				------GRADE 9-------			
ITEM #	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
B	H-N	NEW <PLANE> TESTED	0.524	0.101	0.298	0.077	168	0.733	0.067	0.141	0.059	135
B	L-V	WORKERS <PLANE> NEW DOORS	0.113	0.679	0.119	0.089	169	0.407	0.385	0.104	0.104	135
			Z 8.06-10.85 4.03 *** *** ***					5.41 -6.26 0.93 *** ***				

GRADE COMPARISONS: H   3.73***   L   5.93***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   13   POLL

NORMATIVE DATA

	MGF VECTOR						----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE----			
WD#	S O TH	GC SMCO	N V A				TOT.% BASE N VALID	N	P(N)	P(V)	P(A)	P(OT)	P(VAL. P(GRAM. P(2% 2ND R) CHANGE)		
844	14 48 4	1	8 2 0	GR.6:	126 0.214	27	1.000 *0.0	*0.0	*0.0	0.704 0.296 0.125				
				GR.9:	102 0.549	56	0.911 *0.089 *0.0	*0.0	0.732 0.464 0.269					

SENTENCE EVALUATION TEST

			------GRADE 6------			------GRADE 9------	
ITEM FM #	SENTENCE	1(R) 2(W)	N,I	N	1(R) 2(W)	N,I	N
14 B M-N	THE LATEST <POLL> SHOWS THAT PEOPLE ARE SPENDING MORE.	0.536 0.455	0.009	112	0.889 0.111	0.0	90
C L-V	THE STUDENTS WILL <POLL> THE TEACHERS ABOUT (SIC)	0.214 0.786	0.0	112	0.367 0.622	0.011	90
		Z 4.97***			7.25***		
A A-*	THE HUNTERS RETURNED WITH A <POLL> DEER.	0.107 0.884	0.009	112	0.156 0.844	0.0	90

GRADE COMPARISONS : M   5.41***   L   2.39*   A   -0.82

HEADLINES TEST

		------GRADE 6------		------GRADE 9------	
ITEM FM #	HEADLINE	1(R) 2(W) 3(?) 4(NR)	N	1(R) 2(W) 3(?) 4(NR)	N
A M-N	<POLL> SHOWS PEOPLE SPEND MORE MONEY TODAY	0.095 0.333 0.327 0.244	168	0.481 0.237 0.200 0.081	135
B L-V	STUDENTS <POLL> TEACHERS ON DRESS CODE	0.119 0.565 0.149 0.167	168	0.474 0.299 0.141 0.096	135
		Z -0.71 -4.28 3.84 ***		0.12 -0.97 1.29	

GRADE COMPARISONS: M   7.55***   L   6.86***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   14   POLICE

NORMATIVE DATA

```
                                    -----DATA FROM FIRST SENTENCE WRITTEN----   --2ND SENTENCE----
                         MGF VECTOR   TOT. %  HASE                               P(VAL. P(GRAM.
            WOP  S  D  TH  GC SMCO  N  V  A   N VALID  N  P(N)  P(V)  P(A)  P(DT) P(2) 2ND R) CHANGE)

            929  21  4A  4  1  9  1  0  GP.6: 136 0.855 118  0.941 *0.059 *0.0  *0.0  3.839 0.737 0.184

                                       GP.9: 97 0.737  71  0.855 0.141 *0.0  *0.0  0.903 0.732 0.558
```

SENTENCE EVALUATION TEST

```
                                              ----- -GRADE 6-------- -------- -GRADE 9----------

ITEM FM   SENTENCE                             1(R)  2(W)   N.I    N    1(R)  2(W)   N.I    N
#
19  C  THE <POLICE> CAUGHT THE BANK ROBBERS.   0.920 0.071 0.009 112  1.000  0.0    0.0    90

    A  THE SOLDIERS HAD TO <POLICE> THE AREA.  0.438 0.554 0.009 112  0.739 0.211  0.0    90

                                            Z   7.73***              4.61***

    A  A-*  THE LITTLE BOY WAS VERY <POLICE> DURING THE CONCERT.  0.071 0.929 0.0   112  0.067 0.933  0.0    90

       GRADE COMPARISONS :  H  2.75**  L          5.05***   A    0.13
```

HEADLINES TEST

```
                                              --------GRADE 6-------- --------GRADE 9----------

ITEM FM   HEADLINE                             1(R)  2(W) 3(P)  4(NR)  N   1(R)  2(W) 3(P)  4(NR)  N
#
11  B  H-N  <POLICE> CATCH BANK ROBBERS        0.643 0.143 0.135 0.030 168  0.726 0.067 0.156 0.052 135

    A  L-V  SOLDIERS <POLICE> STREETS          0.500 0.226 0.190 0.083 168  0.652 0.170 0.111 0.067 135

                                            Z   2.65 -1.97 -0.14           1.31 -2.64  1.07
                                                **   **                          **

                       GRADE COMPARISONS:   H   1.54     L   2.65*3
```

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-D37-

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   IS   :CARE

NORMATIVE DATA

```
                                   -----DATA FROM FIRST SENTENCE WRITTEN-----   --2ND SENTENCE--
                      WGF VECTOR    TOT. %  BASE                                P(VAL. PIGRAM.
         WD#  S O TH  GC SMCO N V A  N VALID  N    P(N)   P(V)   P(A)   P(TOT)  P(2) 2ND R) CHANGE)

         967  2 1  3A  4   1  1 9  0  GR.6: 126 0.8C2  1C1 *0.099  0.901 *0.0   *0.0   0.792 0.703 0.254

                                     GR.9: 102 0.619  63  0.206   0.794 *0.0   *0.0   0.714 0.619 0.590
```

SENTENCE EVALUATION TEST

```
                                                    --------GRADE 6--------       --------GRADE 9--------
ITEM FM   SENTENCE                                   1(R)  2(W)   N,I    N         1(R)  2(W)   N,I    N
#
7  C  H-V  THE POLICE APRIVED IN TIME TO <SCARE> AWAY THE ROBBER.    0.777 0.223 0.0   112    0.849 0.111 0.0    90

   A  L-N  POLITICAL LEADERS ARE SPREADING A <SCARE> OF ANOTHER WAR.  0.732 0.268 0.0   112    0.800 0.189 0.011  90

                                                         Z  0.78                        1.65

   B  A-*  HE WAS SITTING AT A <SCARE> DESK IN SCHOOL.   0.125 0.875 0.0   112    0.089 0.911 0.0    90

                            GRADE COMPARISONS :  H  2.09*  L           L  1.13   A  0.82
```

HEADLINES TEST

```
                                          --------GRADE 6--------       --------GRADE 9--------
ITEM FM   HEADLINE                        1(R)  2(W) 3(?)  4(NR)  N     1(R)  2(W) 3(?)  4(NR)  N
#
1  B  H-V  MEN <SCARE> ROBBER AWAY        0.815 0.042 0.131 0.012 168   0.778 0.067 0.119 0.037 135

   A  L-N  MEN SPREAD <SCARE> OF WAR      0.268 0.274 0.393 0.065 168   0.393 0.407 0.148 0.052 135

                                   Z  10.07 -5.84 -5.46              6.42 -6.58 -0.72
                                      ***  ***   ***                 *** ***
                            GRADE COMPARISONS:  H  -0.81   L   2.31*
```

RESULTS FOR INDIVICUAL WORDS

L 2   16   SNAKE

NORMATIVE DATA

WD#	S O TH	GC SMCD	AGE VECTOR N V A	TOT. % BASE N VALID N	P(N)	P(V)	P(A)	P(OT)	P(Z)	2ND R)	CHANGE)
							----DATA FROM FIRST SENTENCE WRITTEN----			--2ND SENTENCE--- P(VAL. PIGRAM.		
1033	2 1 38	4 1	9 -1 0	GR.6: 126 0.825 104	0.971	*0.029	*0.0	*0.0	3.808	0.751	0.103
				GR.9: 102 0.716 73	0.996	*0.014	*0.0	*0.0	0.658	0.644	0.234

SENTENCE EVALUATION TEST

ITEM #	FM	SENTENCE	------GRADE 6------				------GRADE 9------			
			1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
11	C	H-N	WE SAW A BIG, BLACK <SNAKE> AT THE ZOO.	0.955	0.036	0.009	112	0.956	0.011	0.033	90
R	L-V	THE SOLDIERS HAD TO <SNAKE> THROUGH THE GRASS.	0.339	0.661	0.0	112	0.556	0.444	0.0	90
		Z	9.65***				6.24***			
A	A-*	I HAD A <SNAKE> IDEA THAT HE DID IT.	0.080	0.902	0.018	112	0.078	0.922	0.0	90

GRADE COMPARISONS : H 0.01 L 3.08** A 0.51

HEADLINES TEST

ITEM #	FM	HEADLINE	------GRADE 6------				--------GRADE 9-------			
			1(R)	2(W)	3(7)	4(NR)	N	1(R)	2(W)	3(7)	4(NR)	N
3	A	M-N	<SNAKE> FOUND IN ZOO	0.391	0.298	0.292	0.030	168	0.615	0.193	0.170	0.022	135
B	L-V	SOLDIERS <SNAKE> THROUGH GRASS TO FIND ENEMY	0.631	0.220	0.119	0.030	168	0.763	0.141	0.074	0.022	135
		Z	-4.58 ***	1.62	3.92 ***			-2.63 **	1.14	2.42 *		

GRADE COMPARISONS: H 4.05*** L 2.47*

RESULTS FOR INDIVICUAL WORDS

LEVEL 2   17   SPEAK

NORMATIVE DATA

```
                                     ----DATA FROM FIRST SENTENCE WRITTEN----   --2ND SENTENCE---
                                     TOT.  BASE                                    P(VAL. P(GRAM.
                  MGF VECTOR         N  VALID  N    P(N)   P(V)   P(A)   P(OT;   P(2) 2ND R) CHANGE)
          #D#  S D TH  GC SMCO  N / A

          1953  2 1  3A  4   1   8  2  C   GR.6: 141 0.794  112   0.866 *0.136 *.0   *0.0   0.768 0.660 0.338

                                     GR.9: 106 0.81'  86    0.791  0.209 *0.0   *0.0   0.814 0.721 0.645
```

SENTENCE EVALUATION TEST

```
                                     ------GRADE 6------    ------ -GRADE 9------
ITEM FM                               1(R)  2(W)  N.I   N   1(R)  2(W)  N.I   N
 #
15  B  M-N  THE STUDENTS FOUND AN OLD <SPEAR> IN A CAVE.
                                     0.938 0.063 0.0  112   0.989 0.011 0.0   90

    A  L-V  THE CAVEMEN HAD TC <SPEAR> THEIR MEAT.
                                     0.875 0.125 0.0  112   0.856 0.144 0.0   90

                                     Z  1.60                3.34***

    C  A-*  HE FOUND A <SPEAR> TABLE IN THE HOUSE.
                                     0.357 0.625 0.018 112  0.222 0.778 0.0   90

GRADE COMPARISONS :  M   1.86         L  -0.40    A   2.34*
```

HEADLINES TEST

```
                                     -------GRADE 6-------    -------GRADE 9-------
ITEM FM                               1(R;  2(W)  3(?)  4(NR)  N   1(R)  2(W)  3(?)  4(NR)  N
 #
20  A  M-N  OLD <SPEAR> FOUND IN CAVE
                                     0.196 0.578 0.190 0.095 168  0.230 0.600 0.096 0.074 135

    B  L-V  INDIANS <SPEAR> MEAT
                                     0.256 0.512 0.143 0.089 168  0.267 0.548 0.096 0.089 135

                                     Z  -1.30 0.11 1.17        -0.70 0.96 0.0

                                     GRADE COMPARISONS:  M  0.70   L   0.21
```

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

LEVEL 7   13   SWAMP

	WD#	S	D	TH	GC	SMCD	MGF VECTOR N	V	A
	1111	1	1	4A	4	3	9	1	0

	----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE--- P(VAL. P(GRAM.		
	TOT. % BASE							
	N VALID	N	P(N)	P(V)	P(A)	P(OT)	P(2) 2ND RI CHANGE)	
GR.6:	126 0.825	104	0.942	*0.058	*0.0	*0.0	0.769 0.673 0.286	
GR.9:	102 0.716	73	0.781	0.219	*0.0	*0.0	0.808 0.781 0.632	

SENTENCE EVALUATION TEST

				------GRADE 6------				------GRADE 9------			
ITEM	FM	SENTENCE	1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
R C	H-N	WE FOUND SNAKES IN THE <SWAMP>.	0.938	0.063	0.0	112	0.978	0.022	0.0	90
A	L-V	THE BAD STORM WILL <SWAMP> THE SMALL BOATS.	0.464	0.527	0.009	112	0.689	0.311	0.0	90
			Z	7.73***				5.20***		
B	A-*	WE BOUGHT A <SWAMP> PEN AT THE STORE.	0.277	0.723	0.0	112	0.311	0.689	0.0	90

GRADE COMPARISONS :   H   1.38   L   3.20**   A   -0.53

HEADLINES TEST

			------GRADE 6------					------GRADE 9------				
ITEM	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
B	H-N	SNAKES FOUND IN <SWAMP>	0.327	0.472	0.182	0.036	168	0.481	0.319	0.178	0.022	135
A	L-V	STORMS <SWAMP> SMALL BOATS	0.268	0.476	0.179	0.077	168	0.326	0.526	0.089	0.059	135
			Z	1.19	-0.44	0.14		2.60	-3.45	2.15		
								**	***	*		

GRADE COMPARISONS: H   2.73**   L   1.10

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   1? TWINE

NORMATIVE DATA

						----DATA FROM FIRST SENTENCE WRITTEN----									--2ND SENTENCE--		
																	P(VAL.	P(GRAM.
	MGF VECTOR								TOT. %	BASE							P(:2)	2ND R) CHANGE)
WD#	S D TH	GC SMCO	N V A					N VALID	N	P(N)	P(V)	P(A)	P(OT)					
1171	1 3 4A 4	1 4 6 0	GR.6:	141 0.404	57	0.912	*0.086	*0.0	*0.0	0.754	0.648	0.270
			GR.9:	106 0.557	59	0.746	0.254	*0.0	*0.0	0.610	0.525	0.548

SENTENCE EVALUATION TEST

ITEM FM	SENTENCE		-----GRADE 6-----				-----GRADE 9-----			
#			1(R)	2(W)	N,I	Z	1(R)	2(W)	N,I	Z
4 C H-N	A PIECE OF <TWINE> MUST BE USED AROUND ALL POSTAL PACKAGES.		0.830	0.161	0.009	112	0.911	0.067	0.022	90
A L-V	THE RIVER APPEARED TO <TWINE> THROUGH THE COUNTRYSIDE.		0.554	0.429	0.018	112	0.522	0.467	0.011	90
		Z	4.49***				5.79***			
0 A-*	I WILL MAKE A <TWINE> EGG FOR US TO EAT.		0.196	0.804	0.0	112	0.122	0.867	0.011	90

GRADE COMPARISONS :   H   1.68   L   -0.44   A   1.19

HEADLINES TEST

ITEM FM	HEADLINE		-----GRADE 6-----					-----GRADE 9-----				
#			1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
17 4 H-N	PIECE OF <TWINE> ONLY CLUE AT CRIME		0.492	0.196	0.196	0.125	168	0.644	0.096	0.111	0.148	135
A L-V	VINES <TWINE> AROUND FENCE POSTS OF OLD HOUSE		0.542	0.179	0.149	0.131	168	0.770	0.067	0.081	0.081	135
		Z	-1.09	0.42	1.15			-2.27 *	0.89	0.83		

GRADE COMPARISONS: H   2.83**   L   4.13***

RESULTS FOR INDIVIDUAL WORDS

L 2 20 WORKY

NORMATIVE DATA

	MGF VECTOR										-----DATA FROM FIRST SENTENCE WRITTEN-----					--2ND SENTENCE--	
WD#	S	D	TH	GC	SMCO	N	V	A		TOT. % BASE N VALID N	P(N)	P(V)	P(A)	P(OT)	P(VAL. P(GRAM. P(2) 2ND K) CHANGE)	
1244	21	38	4	1	2	8	0		GR.6:	126 0.873	110	*0.036	0.964	*0.0	*0.0	0.745 0.700 0.182
									GR.9:	102 0.657	67	*0.060	0.940	*0.0	*0.0	0.701 0.612 0.366

SENTENCE EVALUATION TEST

ITEM	FM	SENTENCE	------GRADE 6-------						------GRADE 9-------				
#			-.R)	2(W)	N.I	N			1(R)	2(W)	N.I	N	
10	A H-V	MOTHERS ALWAYS <WORRY> ABOUT HIGH PRICES.	0.857	0.134	0.009	112			0.856	0.144	0.0	90	
	B L-N	IT CREATED A NEW <WORRY> FOR US.	0.598	0.393	0.009	112			0.856	0.133	0.011	90	
			Z	4.35***						0.0			
	C A-*	THE <WORRY> WEATHER DIDN'T LAST VERY LONG.	0.134	0.866	0.0	112			0.167	0.833	0.0	90	

GRADE COMPARISONS : H -0.03 L 4.02*** A -0.65

HEADLINES TEST

ITEM	FM	HEADLINE	------GRADE 6-------						------GRADE 9-------				
#			1(R)	2(W)	3(?)	4(NR)	N		1(R)	2(W)	3(?)	4(NR)	N
2	B H-V	MOTHERS <WORRY> ABOUT HIGH PRICES	0.202	0.607	0.179	0.012	169		0.511	0.296	0.148	0.044	135
	A L-N	NEW <WORRY> FACES MOTHERS	0.446	0.226	0.280	0.048	168		0.548	0.252	0.178	0.022	135
			Z	-4.78 ***	7.08 ***	-2.21 *				-0.61	0.82	-0.66	

GRADE COMPARISONS: H 5.64*** L 1.76

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   21   YELL

NORMATIVE DATA

```
                              -----DATA FROM FIRST SENTENCE WRITTEN-----    --2ND SENTENCE--
              MGF VECTOR      TOT. %  BASE                                        P(VAL. P(GRAM.
     WON  S  D  TH  GC  SMCD  N  V  A     N VALID  N    P(N)   P(V)   P(A)  P(OT)   P(2) 2ND R) CHANGE)

     1250  1  1  4n  4   1   2  8  0   GR.6: \18 0.920 127 *0.087 0.913 *0.0  *0.0   0.70: 0.630 0.162

                                       GR.9:  97 0.845  32 *0.085 0.915 *0.0  *0.0   0.610 0.573 0.489
```

SENTENCE EVALUATION TEST

```
                                                                    ------GRADE 6------      ------GRADE 9------
ITEM FM  SENTENCE                                                    1(R)  2(W)  N.I   N      1(R)  2(W)  N.I   N
#
21  B  H-V  THE STUDENTS STARTED TO <YELL> LOUDLY AT THE GAME.      0.884 0.116 0.0  112     0.978 0.022 0.0   90

    L  L-N  EVERYONE COULD HEAR THE LOUD <YELL> AT THE GAME.        0.777 0.223 0.0  11?     0.933 0.056 0.011 90
                                                            Z 2.14*                    1.45
    A  A-*  EVERYONE GOT A <YELL> TICKET FOR THE GAME.              0.063 0.938 0.0  112     0.057 0.933 0.0   90

                    GRADE COMPARISONS :  H  2.53*   L  3.07**   A  -0.12
```

HEADLINES TEST

```
                                           ------GRADE 6------              ------GRADE 9------
ITEM FM  HEADLINE                          1(R)  2(W)  3(?)  4(NR)   N      1(R)  2(W)  3(?)  4(NR)   N
#
15  B  H-V  STUDENTS <YELL> AT GAME        0.685 0.101 0.155 0.060 158     0.733 0.104 0.119 0.044 135

    A  L-N  LOUD <YELL> HEARD AT GAME      0.542 0.149 0.238 0.071 168     0.785 0.099 0.089 0.037 135
                                      L  2.69 -1.32 -1.92             -1.00 0.41 0.80
                                         **
                    GRADE COMPARISONS:  H  0.93    L  4.42***
```

RESULTS FOR INDIVIDUAL WORDS

a   1   ANIMATE

NORMATIVE DATA

					MGF VECTOR					-----DATA FROM FIRST SENTENCE WRITTEN-----						--2ND SENTENCE---		
										TOT. % BASE							P(VAL. P(GRAM.	
WD#	S D	TH	GC	SMCU	N	V	A			N VALID N	P(N)	P(V)	P(A)	P(OT)		P(Z) 2ND N) CHANGE)	
60	16	6	1	0	9	1		GR.9:	147 0.490	72 *0.0	0.989	*0.111	*0.0		0.639 0.445 0.125	

SENTENCE EVALUATION TEST

ITEM FM #	SENTENCE	------GRADE 6------				------GRADE 9------			
		1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
4 C	M-V A FRENCH CARTOONIST WAS CHOSEN TO <ANIMATE> THE NEW FILM.	0.824	0.176	0.0	108	0.936	0.064	0.0	94
B	L-A HE SAW A VAST RANGE OF <ANIMATE> LIFE IN THE VALLEY.	0.556	0.435	0.009	138	0.353	0.436	0.011	94
			Z 5.27***				6.02***		
A A-*	THE <ANIMATE> RESTED IN THE FOREST AFTER THE CHASE.	0.361	0.630	0.009	108	0.202	0.798	0.0	94
	GRADE COMPARISONS :	H	2.41*			L	-0.03	A	2.62**

HEADLINES TEST

ITEM FM #	HEADLINE	------GRADE 6------				------GRADE 9------			
		1(R)	2(W)	3(?)	4(NR) N	1(R)	2(W)	3(?)	4(NR) N
11 A	M-V FRENCH CARTOONISTS <ANIMATE> NEW FILM	0.173	0.556	0.179	0.093 162	0.397	0.411	0.106	0.085 141
B	L-A <ANIMATE> SOUND HEARD ON RADIO	0.012	0.525	0.216	0.247 162	0.026	0.652	0.156	0.163 141
		Z	4.98 -0.84				7.57 -4.06 -1.23		
			***				*** ***		
	GRADE COMPARISONS:	H	4.35***			L	1.00		

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   2   BLOUSE

FORMATIVE DATA

		MGF VECTOR					-----DATA FROM FIRST SENTENCE WRITTEN-----					--2ND SENTENCE--
WD#	S D TH GL SYCO N V A						TOT. & BASE N VALID N	P(N)	P(V)	P(A)	P(DT)	P(VAL. PIGRAM. P(2) 2ND R) CHANGE)
151	1 2 7 4 1 9 -1 0 GR.9:	143	0.937	134	0.978	*0.022	*0.0	*0.0	0.552 0.500 0.239

SENTENCE EVALUATION TEST

ITEM #	FM	SENTENCE		------GRADE 6------			------GRADE 9------		
			1(R)	2(W)	3(?)	N,I	N	1(R)	2(W)	N,I	N
15	A	M-N	THE PICNICKER WAVED A <BLOUSE> TO ANGER THE BULL.	0.537	0.463	0.0	108	0.723	0.277	0.0	94
	C	L-V	THE GUSTING WINDS <BLOUSE> OUT THE SAILS.	0.333	0.639	0.028	108	0.372	0.628	0.0	94
				Z	3.02**			4.84****			
	B	A-*	HE SOLD HIS <BLOUSE> PIANO WHEN HE MOVED TO NEW YORK.	0.222	0.769	0.009	108	0.138	0.862	0.0	94

GRADE COMPARISONS :   H   2.73**   L   0.58   A   1.69

HEADLINES TEST

ITEM #	FM	HEADLINE		------GRADE 6------			------GRADE 9------		
			1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
21	B	M-N	<BLOUSE> USED TO ANGER BULL	0.327	0.253	0.167	0.253	162	0.383	0.397	0.106	0.113	141
	A	L-V	WINDS <BLOUSE> OUT SAILS	0.525	0.154	0.148	0.173	162	0.631	0.156	0.045	0.128	141
				Z	-3.60	2.21	0.46		-4.17	4.53	0.61	
					***	*			***	***		

GRADE COMPARISONS: H   1.01   L   1.87

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

L 3   3   BUFFALO

```
                                      ----DATA FROM FIRST SENTENCE WRITTEN----   --2ND SENTENCE---
                          MGF VECTOR   TOT. %   BASE                                    P(VAL. P(GRAM.
        WD#  S D TH  GC SHCO  N  V A    N  VALID  N   P(N)  P(V)  P(A)  P(TOT)   P(2) 2ND R) CHANGE?
        176  2 1  6   4  ;   9 -1  0  GR.9: 143 0.755  108  0.944 *0.056 *0.0    *0.0  0.759 0.592 0.234
```

SENTENCE EVALUATION TEST

```
                                                    -------GRADE 6------         ------GRADE 9--------
ITEM FM   SENTENCE                                   1(R)  2(W,  W,     N        1(R)  2(W)   N.I    N
#
14  A  H-N  THERE ARE VERY FEW <BUFFALO> REMAINING ON THE PLAINS.    0.926 0.074 0.0    108   0.947 0.053 0.0    94

    B  L-V  POLITICAL SPEAKERS CAN EASILY <BUFFALO> THEIR AUDIENCES.  0.278 0.722 0.0    108   0.426 0.553 0.021  94
                                                              Z  9.73***                       7.70***

    C  A-*  THE <BUFFALO> BANK OF THE RIVER CAVED IN.   0.343 0.648 0.009 108   0.255 0.745 0.0    94

            GRADE COMPARISONS :   H    0.60     L          2.20*     A      1.48
```

HEADLINES TEST

```
                                                    --------GRADE 6---------        --------GRADE 9---------
ITEM FM   HEADLINE                                   1(R) 2(W) 3(?) 4(NR)  N        1(R) 2(W) 3(?) 4(NR) N
#
16  A  H-N  FEW <BUFFALO> REMAIN    0.284 0.346 0.222 0.148 162   0.447 0.355 0.106 0.092 141

    B  L-V  SPEAKERS <BUFFALO> AUDIENCE AT TALKS   0.080 0.454 0.130 0.296 162   0.227 0.468 0.099 0.206 141
                                              Z  4.75 -2.70  2.19              3.91 -1.94  0.20
                                                 ***   **    *                 ***

            GRADE COMPARISONS:   H   2.95**    L   3.58***
```

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   4 ECLIPSE

NORMATIVE DATA

```
                  MGF VECTOR         ----DATA FROM FIRST SENTENCE WRITTEN----    --2ND SENTENCE---
                                     TOT. %  BASE                                   P(VAL. P(GRAM.
        WD#  S  D  TH  GC SMCO  N  V  A     N  VALIG  L  P(N)  P(V)  P(A)   P(OT)   P(2) 2ND R) CHANGE)

        347  1  3  6   4   1  8  2  0  GR.9: 147 0.735  108   0.944 *0.056 *0.0     *0.0     0.556 0.500 0.389
```

SENTENCE EVALUATION TEST

```
                                                    -----GRADE 6-------      -------GRADE 9-------
ITEM FM   SENTENCE                                   1(R)  2(W)   N.I   N     1(R)  2(W)   N.I   N
#
2  A  H-N  MANY PEOPLE WERE ABLE TO WATCH THE RECENT <ECLIPSE>.   0.870 0.130 0.0  108   0.936 0.064 0.0   94

   C  L-V  VISITING FOREIGN TEAMS OFTEN <ECLIPSE> OUR PERFORMANCE.  0.296 0.704 0.0  108   0.349 0.681 0.0   94

                                                  Z  8.56***                          8.75***

   B  A-*  THE <ECLIPSE> DRIVER WAS ABLE TO FINISH THE RACE.   0.324 0.676 0.0  108   0.255 0.745 0.0   94

            GRADE COMPARISONS :  H   1.56    L          0.35     A    1.07
```

HEADLINES TEST

```
                                                    --------GRADE 6---------    --------GRADE 9---------
ITEM FM   HEADLINE                                   1(R)  2(W)  3(?) 4(NR)  N    1(R)  2(W)  3(?)  4(NR)  N
#
9  A  H-N  <ECLIPSE> SEEN BY MANY LAST NIGHT          0.420 0.235 0.216 0.130 162  0.596 0.262 0.121 0.021 141

   q  L-V  FOREIGN TEAMS <ECLIPSE> HOME TEAM PERFORMANCE  0.247 0.265 0.167 0.321 162  0.418 0.319 0.071 0.191 141

                                                  Z  3.30 -0.64  1.13            2.98 -1.05  1.42
                                                     ***                          **

            GRADE COMPARISONS:  H   3.06**   L   3.18**
```

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

LEVEL 3   5   EPIDEMIC

WD#	S O TH	GC 5+C0	MGE VECTOR N V A								
367	1 4 8	5 1	8 C 2	GR.9: 147							

----DATA FROM FIRST SENTENCE WRITTEN----

TOT. % N	BASE VALID N	P(N)	P(V)	P(A)	P(OT)	--2ND SENTENCE-- P(VAL. P(GRAM. P(2) 2ND R) CHANGE)		
0.701	103	0.971	*0.0	*0.029	*0.0	0.534	0.379	0.256

SENTENCE EVALUATION TEST

ITEM FM	SENTENCE	-----GRADE 6----- 1(R)	2(W)	N.I	N	-----GRADE 9----- 1(R)	2(W)	N.I	N
6 B H-N	THE FLU <EPIDEMIC> WAS SPREADING RAPIDLY.	0.796	0.204	0.0	108	0.936	0.064	0.0	94
A L-A	THE PANIC REACHED <EPIDEMIC> PROPORTIONS.	0.528	0.472	0.0	108	0.670	0.330	0.0	94
	Z	4.17***				4.59***			
C A-*	BAKERS OFTEN <EPIDEMIC> THE BREAD BEFORE BAKING.	0.278	0.694	0.028	108	0.245	0.755	0.0	94

GRADE COMPARISONS : H 2.87***   L 2.06*   A 0.96

HEADLINES TEST

ITEM FM	HEADLINE	-----GRADE 6----- 1(R)	2(W)	3(?)	4(NR)	N	-----GRADE 9----- 1(R)	2(W)	3(?)	4(NR)	N
17 A H-N	<EPIDEMIC> SPREADS RAPIDLY	0.494	0.160	0.130	0.216	162	0.745	0.128	0.021	0.106	141
B L-A	PANIC REACHES <EPIDEMIC> PROPORTIONS	0.074	0.389	0.154	0.383	162	0.206	0.433	0.184	0.177	141
	Z	8.38	-4.61	-0.64			9.06	-5.70	-4.51		
		***	***				***	***	***		

GRADE COMPARISONS: H 4.47***   L 3.34***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   A   HOIST

NORMATIVE DATA

				MGF VECTOR					----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE--		
WD#	S	D	TH	GC SMCO	N	V	A		TOT. % BASE N VALID N	P(N)	P(V)	P(A)	P(OT)		P(VAL. P(GRAM. P(2) 2ND R) CHANGE)		
502	1	4	7	4	1	2	P	0	GR.9: 147 0.463	68 *0.074	0.926	*0.0	*0.0		0.515 0.383 0.577		

SENTENCE EVALUATION TEST

				------GRADE 6------				------GRADE 9------			
ITEM FM #		SENTENCE		1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
16 A	H-V	THE WORKERS TRIED TO <HOIST> THE HEAVY PIANO.		0.602	0.398	0.0	108	0.787	0.202	0.011	94
C	L-N	THE <HOIST> WAS BROKEN WHEN THEY UNLOADED THE CARGO.		0.759	0.231	0.009	108	0.787	0.213	0.0	94
		Z		-2..8*				0.0			
B	A-*	THEY GAVE A <HOIST> PARTY IN ORDER TO RAISE FUNDS.		0.519	0.463	0.019	108	0.319	0.681	0.0	94

GRADE COMPARISONS :   H   2.84**   L   0.47   A   3.12**

HEADLINES TEST

				------GRADE 6------					------GRADE 9------				
ITEM FM #		HEADLINE		1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
5 B	H-V	WORKERS <HOIST> PIANO		0.426	0.265	0.160	0.148	162	0.610	0.213	0.128	0.050	141
A	L-N	<HOIST> BROKEN: WORK STOPS		0.241	0.216	0.333	0.210	162	0.495	0.106	0.298	0.099	141
		Z		3.54 ***	1.04	-3.61 ***			1.9;	2.44 *	-3.49 ***		

GRADE COMPARISONS: H   3.20**   L   4.63***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   7   IMPRESS

NORMATIVE DATA

			MGF VECTOR							----DATA FROM FIRST SENTENCE WRITTEN----						--2ND SENTENCE--		
WDM	S D	TH	GC	SMCO	N	V	A		TOT. % BASE N VALID N	P(N)	P(V)	P(A)	P(OT)		P(VAL. P(2)	P(GRAM. 2ND M)	CHANGED
530	2 3	5A	4	1 1	9	0		Gk.9:	147 0.707 104	*0.019	0.981	*0.0			0.721	0.615	0.188

SENTENCE EVALUATION TEST

ITEM #	FM		SENTENCE
17	B	H-V	THE OLD IDEAS ON FREEDOM STILL <IMPRESS> TODAY'S LEADERS.
	A	L-N	HIS TEACHER'S IDEA MADE A STRONG <IMPRESS> ON HIM.
	C	A-*	THE <IMPRESS> BRIDGE COLLAPSED AS THE BOMB EXPLODED.

------GRADE 6------				------GRADE 9------			
1(P)	2(W)	N.I	N	1(R)	2(W)	N.I	N
0.861	0.139	0.0	109	0.936	0.064	0.0	94
0.556	0.444	0.0	108	0.298	0.702	0.0	94
Z 4.94***				9.00***			
0.250	0.731	0.019	108	0.245	0.755	0.0	94

GRADE COMPARISONS : H 1.74 L -3.68*** A 0.39

HEADLINES TEST

ITEM #	FM		HEADLINE
6	A	H-V	OLD IDEAS <IMPRESS> LEADERS
	B	L-N	GOOD <IMPRESS> GIVEN BY STUDENTS TO TEACHERS

------GRADE 6------					------GRADE 9------				
1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
0.401	0.253	0.259	0.086	162	0.638	0.099	0.227	0.035	141
0.346	0.284	0.259	0.111	162	0.482	0.191	0.248	0.078	141
Z 1.03	-0.63	0.0			2.64 **	0.73	-3.30 ***		

GRADE COMPARISONS: H 4.12*** L 2.41*

RESULTS FOR INDIVIDUAL WORDS

LEVEL 2   X   MELLOW

NORMATIVE DATA

			MGF VECTOR					----DATA FROM FIRST SENTENCE WRITTEN-----						--2ND SENTENCE--- P(VAL. P(GRAM.
WD*	S O TH	GC	S MCO	N	V	A	TO*, % BASE N VALID	N	P(N)	P(V)	P(A)	P(OT)	P(Z) 2ND R) CHANGE)
678	1 5 5A	6	1	0	1	9	GR.9: 143 0.664	95	*0.0	*0.011	0.989	*0.0	0.747 0.589 0.125

SENTENCE EVALUATION TEST

			------GRADE 6-------				------GRADE 9-------			
ITEM #	FM	SENTENCE	1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
12	C	H-A	THE RADIO STATION BROADCASTS <MELLOW> SOUNDS.	0.602	0.398	0.0	108	0.915	0.085	0.0	94
	B	L-V	WINES <MELLOW> IN COOL DARK CELLARS.	0.491	0.509	0.0	108	0.755	0.245	0.0	94
				Z	1.64			2.95**			
	A	A-*	WE COOKED THE <MELLOW> FOR TWO HOURS BEFORE IT WAS READY.	0.250	0.750	0.0	108	0.149	0.851	0.0	94
			GRADE COMPARISONS :	H	5.11***	L		3.85***	A	1.78	

HEADLINES TEST

			------GRADE 6-------				------GRADE 9-------			
ITEM #	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
14	B	H-A	<MELLOW> SOUNDS ON NEW RADIO STATION	0.327	0.358	0.148	0.167	162	0.418	0.440	0.078	0.064	141
	A	L-V	WINES <MELLOW> IN CELLAR	0.210	0.346	0.321	0.123	162	0.582	0.199	0.135	0.085	141
			Z	2.38	0.23	-3.67			-2.74	4.34	-1.55		
				*		***			**	***			
			GRADE COMPARISONS:		H	1.64			L	6.64***			

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   9   NIBBLE

NORMATIVE DATA

	MGF VECTOR					----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE--
	S D TH C SMCO N V A					TOT. % BASE					P(VAL. P(GRAM.
WDW						N VALID N P(N) P(V) P(A) P(OT)					P(2) 2ND R) CHANGE)
735	1 1 6 4 1 3 7 0 GR.9: 143 0.769					110 *0.102 0.892 *0.0 *0.0					3.673 0.650 0.470

SENTENCE EVALUATION TEST

------GRADE 6------   ------GRADE 9------

| ITEM FM | SENTENCE | 1(R) | 2(W) | N.I | Z | 1(R) | 2(W) | N.I | N |
| # |
20 C	M-V NOT LIKING VEGETABLES, CHILDREN OFTEN JUST <NIBBLE> AT THEM.	0.852	0.139	0.009	108	0.926	0.074	0.0	94
A	L-N A SMALL <NIBBLE> FROM A CAKE HAS GOT ME INTO TROUBLE AGAIN.	0.731	0.269	0.0	108	0.777	0.223	0.0	94
		Z	2.18*			2.87**			
B	A-# THE <NIBBLE> BOOK CAN BE FOUND ON THE LIBRARY SHELF.	0.343	0.648	0.009	108	0.117	0.883	0.0	94

GRADE COMPARISONS :   H   1.54   L   H   0.74   A   3.88***

HEADLINES TEST

------GRADE 6------   ------GRADE 9------

| ITEM FM | HEADLINE | 1(R) | 2(W) | 3(?) | 4(NR) | N | 1(R) | 2(W) | 3(?) | 4(NR) | N |
| # |
10 M	M-V BATS <NIBBLE> AT FOOD IN ALLEYS	0.290	0.438	0.160	0.111	162	0.397	0.475	0.071	0.057	141
B	L-N <NIBBLE> TAKEN OUT OF GIANT SWISS CHEESE	0.549	0.154	0.142	0.154	162	0.645	0.184	0.071	0.009	141
		Z	-4.73	5.60	0.47			-4.17	5.19	0.0	
			***	***				***	***		

GRADE COMPARISONS: H   1.96*   L   1.70

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   10   NOVEL

NORMATIVE DATA

											----DATA FROM FIRST SENTENCE WRITTEN----						--2ND SENTENCE---		
WD#	S	D	TH	GC	SMCD	MGF	VECTOR N	V	A	TOT. % BASE						P(VAL. P(GRAM.		
						N V A			N VALID	N	P(N)	P(V)	P(A)	P(OT)	P(2) 2ND R) CHANGE)		
746	1	3	5A 5 4	8 0 2	GR.9:	138	0.717	99	0.879	*0.0	*0.121	*0.0	0.667 0.556 0.527		

SENTENCE EVALUATION TEST

ITEM #	FM	SENTENCE	------GRADE 6------				------GRADE 9------			
			1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
7 A	M-N	THE PROFESSOR HELD A DISCUSSION ABOUT HIS NEW <NOVEL>.	0.852	0.148	0.0	108	0.947	0.053	0.0	94
C	L-A	A <NOVEL> IDEA WON THE ATTENTION OF OUR SCIENTIFIC LEADERS.	0.620	0.380	0.0	108	0.702	0.298	0.0	94
		Z	3.86***				4.41***			
9 A-*		SNAKES <NOVEL> THROUGH THE GRASS LOOKING FOR FOOD.	0.324	0.676	0.0	108	0.106	0.883	0.011	94

GRADE COMPARISONS :   H   2.21*   L   1.22   A   3.50***

HEADLINES TEST

ITEM #	FM	HEADLINE	------GRADE 6------					------GRADE 9------				
			1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
1 B	M-N	PROFESSOR TALKS ABOUT NEW <NOVEL>	0.512	0.247	0.173	0.068	162	0.823	0.064	0.078	0.035	141
A	L-A	<NOVEL> IDEA WINS ATTENTION OF SCIENTIFIC LEADER	0.302	0.302	0.315	0.080	162	0.546	0.298	0.099	0.057	142
		Z	3.84	-1.12	-2.98			5.00	-5.11	-0.03		
			***		**			***				

GRADE COMPARISONS: H   5.68***   L   4.29***

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

LEVEL 3   11   OUTRAGE

									----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE---	
			MGF VECTOR						TOT. %	BASE						P(VAL. P(GRAM.
WRD	S O TH	G. SMCD	N V A						N VALID	N	P(N)	P(V)	P(A)	P(TOT)	P(2) 2ND R) CHANGE)
775	1 5 6	4 1 7	3 0						GR.9: 147 0.741	109	0.890	*0.110	*0.0	*0.0	0.594 0.495 0.389

SENTENCE EVALUATION TEST

ITEM FM #	SENTENCE	------GRADE 6------				------GRADE 9------			
		1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
19 A H-N	MEN SEEM TO THINK THAT LONG SKIRTS ARE AN <OUTRAGE>.	0.694	0.306	0.0	108	0.840	0.160	0.0	94
C L-V	THE STUDENTS TRIED TO <OUTRAGE> THE TEACHERS WITH DEMANDS.	0.722	0.269	0.009	108	0.691	0.309	0.0	94
		Z -0.45				2.41*			
B A-*	AN <OUTRAGE> COMEDY OPENED LAST NIGHT ON BROADWAY.	0.583	0.398	0.019	108	0.553	0.447	0.0	94

GRADE COMPARISONS :   H   2.43*   L   -0.48   A   0.70

HEADLINES TEST

ITEM FM #	HEADLINE	------GRADE 6------					-------GRADE 9-------				
		1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
18 B H-N	LATEST TRIAL AN <OUTRAGE>, JUDGE CLAIMS	0.130	0.407	0.210	0.253	162	0.362	0.376	0.142	0.121	141
A L-V	TEACHERS <OUTRAGE> STUDENTS WITH NEW RULES	0.228	0.451	0.204	0.117	162	0.496	0.383	0.050	0.07:	141
		Z -2.32 *	-0.79	0.14			-2.29 *	-0.12	2.63 **		

GRADE COMPARISONS: H   4.73***   L   4.87***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   12   OVERTURN

NORMATIVE DATA

	MGF VECTOR	----DATA FROM FIRST SENTENCE WRITTEN----				--2ND SENTENCE---		
WD#	S O TH GC SMCO N V A	TOT. % BASE N VALID N	P(N)	P(V)	P(A)	P(OT)	P(Z, 2ND R)	(VAL. P(GRAM. CHANGE)
777	1 1 5A 4 1 1 9 0	GR.9: 138 0.826	114 *0.088	0.912	*0.0	*0.0	0.702 0.694	0.244

SENTENCE EVALUATION TEST

			-------GRADE 6-------				------GRADE 9-------			
ITEM #	FM	SENTENCE	1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
9	C H-V	THE ICE CAUSED MANY CARS TO <OVERTURN> ON THE HIGHWAY.	0.833	0.157	0.009	108	0.883	0.117	0.0	94
B	L-N	THE <OVERTURN> WAS CAUSED BY SNOW AND ICY ROADS.	0.778	0.222	0.0	108	0.872	0.128	0.0	94
			Z	1.03			0.72			
A	A-*	THE <OVERTURN> SHIRT WAS DRYING IN THE SUN.	0.370	0.620	0.009	108	0.287	0.713	0.0	94

GRADE COMPARISONS - H   1.00   L   1.75   A   1.39

HEADLINES TEST

			-------GRADE 6-------				------GRADE 9-------			
ITEM #	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
3	A H-V	CARS <OVERTURN> ON HIGHWAY	0.586	0.185	0.198	0.031	162	0.681	0.241	0.071	0.007	141
B	L-N	<OVERTURN> CAUSED BY SNOW AND ICY ROADS	0.469	0.247	0.216	0.068	162	0.496	0.291	0.170	0.043	141
			Z	2.11 -1.35	-0.41			3.15 -0.94	-2.56		
			*					**		*	

GRADE COMPARISONS: H   1.70   L   0.47

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

LEVEL 3   13   PARROT

			MGF VECTOR					----DATA FROM FIRST SENTENCE WRITTEN-----				--2ND SENTENCE---
								TOT. % BASE				P(VAL. P(GRAM.
WD#	S	D	FH	GC	SMCO	N	V	A	N VALID	N	P(N)	P(V)	P(A)	P(GT)	P(2) 2ND X) CHANGE)
791	1	2	5B	4	1	9	-1	0	GR.9: 143 0.853	122	0.97> *0.025 *0.0	*0.0	0.574 0.517 0.159

SENTENCE EVALUATION TEST

			------GRADE 6------				------GRADE 9------		
ITEM	FM	SENTENCE	1(R)	2(W)	N,i	N	1(R)	2(W)	N,I	N
#										
11	A	H-N	THEY GAVE HIM A <PARROT> FOR HIS BIRTHDAY.	0.926	0.074	0.0	108	0.947	0.053	0.0	94
	B	L-V	THE CHILDREN WILL OFTEN <PARROT> THEIR PARENTS.	0.269	0.7'3	0.019	108	0.298	0.702	0.0	94
			Z	9.85***				9.18***			
.	A-*	THE STORM CLEARED. LEAVING A <PARROT> DISASTER.	0.259	0.741	0.0	108	0.160	0.840	0.0	94

GRADE COMPARISONS :   H   0.60   L   0.46   A   1.73

HEADLINES TEST

			--------GRADE 6--------				--------GRADE 9--------		
ITEM	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
#												
13	A	H-N	<PARROT> GIVEN TO CHILD	0.611	0.111	0.210	0.068	162	0.809	0.085	0.078	0.028	141
	B	L-V	CHILDREN <PARROT> THEIR PARENTS	0.136	0.605	0.093	0.167	162	0.284	0.567	0.071	0.078	141
			Z	8.84 -9.27 2.95				8.85 -8.64 0.23			
				*** *** **				*** ***			

GRADE COMPARISONS: H   3.75***   L   3.18**

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   14   PENSION

NORMATIVE DATA

MGF VECTOR
N D TH GG SMCO N V A

								----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE--- P(VAL. P(GRAM.
								TOT. % BASE N VALID N	P(N)	P(V)	P(A)	P(OT)	P(2I 2ND R) CHANGE)
H07	17	6	4	1	9	1	0	GR.9: 138 0.659 91	1.000	*0.0	*0.0	*0.0	0.582 0.483 0.091

SENTENCE EVALUATION TEST

ITEM FM #	SENTENCE	------GRADE 6-------			------GRADE 9-------		
		1(R) 2(W)	N,I	N	1(R) 2(W)	N,I	N
B B	H-N	A LARGE <PENSION> WAS PLANNED FOR THE UNION WORKERS.	0.657 0.315	0.028	108	0.815 0.085	0.0	94
C	L-V	THE EMPLOYERS WILL <PENSION> THE UNION WORKERS.	0.593 0.398	0.009	108	0.570 0.330	0.0	94
		Z 0.98			4.14***		
A	A-*	THE MAN WORKED IN THE <PENSION> MINE.	0.389 0.593	0.019	108	0.298 0.702	0.0	94

GRADE COMPARISONS : H 4.39*** L 1.14 A 1.62

HEADLINES TEST

ITEM FM #	HEADLINE	--------GRADE 6-----------			--------GRADE 9-----------		
		1(R) 2(W) 3(?) 4(NR)	N	1(R) 2(W) 3(?) 4(NR)		N
2 A	H-N	<PENSION> PLANNED FOR UNION WORKERS	0.080 0.239 0.315 0.216	162	0.390 0.426 0.135 0.050		141
B	L-V	EMPLOYERS <PENSION> UNION WORKERS	0.056 0.463 0.173 0.309	162	0.248 0.455 0.170 0.128		141
		Z 0.88 -1.35 2.98		2.55 -0.48 -0.83		
		**		*		

GRADE COMPARISONS: H 6.45*** L 4.75***

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

CLAFL 3   15   PLANK

			MGF VECTOR						----DATA FROM FIRST SENTENCE WRITTEN----						--2ND SENTENCE---		
WD#	S	D	TH	GC	SMCO	N	V	A	TOT. % BASE N VALID N	P(N)	P(V)	P(A)	P(OT)		P(VAL. P(GRAM. P(Z) 2ND R) CHANGE)	
828	1	2	5A	4	3	9	1	0	GR.9: 147 0.735 108	1.000	*0.0	*0.0	*0.0		0.583	0.555 0.100

SENTENCE EVALUATION TEST

			------GRADE 6------				------GRADE 9------			
ITEM FM #		SENTENCE	1(R)	2(W)	N.)	N	1(R)	2(W)	N.I	N
J	C	H-N THE CAPTURED PIRATE WAS FORCED TO WALK THE \<PLANK>.	0.907	0.093	0.0	108	0.957	0.043	0.0	94
B	L-V THE BOAT WILL BE READY AFTER THE WORKERS \<PLANK> THE DECK.	0.435	0.565	0.0	108	0.511	0.489	0.0	94
		Z	7.39***				6.93***			
A	A-* THE THIEVES PLANNED THE ROBBERY IN \<PLANK> DAYLIGHT.	0.120	0.880	0.0	108	0.170	0.830	0.0	94

GRADE COMPARISONS :   H   1.40   L   1.07   A -1.01

HEADLINES TEST

			------GRADE 6------				------GRADE 9------			
ITEM FM #		HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
B	B	H-N CAPTURED PIRATE WALKS \<PLANK>	0.500	0.246	0.185	0.074	162	0.504	0.277	0.170	0.050	141
A		L-V WORKERS \<PLANK> DECK OF NEW BOAT	0.210	0.512	0.173	0.105	162	0.454	0.348	0.135	0.054	141
		Z	5.40 ***	-5.05 ***	0.29			0.83	-1.29	0.83		

GRADE COMPARISONS: H   0.06   L   4.53***

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

LEVEL 3   19 PRESSURE

-----DATA FROM FIRST SENTENCE WRITTEN----- | --2ND SENTENCE---

TOT. 4 BASE

| | | | | | MGF VECTOR | | | | | | |

| WOR | S | D | IH | GC | SMCC | N | V | A | N VALID | N | P(N) | P(V) | P(A) | P(OT) | P(OT) | P(2) 2ND W) CHANGE) |

| 867 | 23 | 3 | 5A | 4 | 1 | 9 | 1 | 0 | GR.9: 147 | 116 | 0.862 | *0.138 | *0.0 | *0.0 | 0.871 | 0.871 | 0.327 |

0.789

SENTENCE EVALUATION TEST

------GRADE 6------   ------GRADE 9------

ITEM	FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
18	C	H-N	THE <PRESSURE> OF DOMESTIC PROBLEMS RESTS ON THE LEADERS.	0.769	0.204	0.028	108	0.947	0.043	0.011	94
A	L-V	MINE WORKERS WILL <PRESSURE> CONGRESS FOR APPROVAL OF A LAW.	0.620	0.380	0.0	108	0.915	0.085	0.0	94

Z   2.36*   Z   0.86

| 8 | A-* | THE GOVERNMENT HAS APPROVED THE <PRESSURE> COIN LAW. | 0.333 | 0.667 | 0.0 | 1(3 | 0.383 | 0.617 | 0.0 | 94 |

GRADE COMPARISONS :   H   3.55***   L   4.87***   A   -0.73

HEADLINES TEST

------GRADE 6------   ------GRADE 9------

ITEM	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
7	B	H-N	NEW <PRESSURE> ON LEADERS	0.346	0.290	0.222	0.142	162	0.475	0.191	0.227	0.106	141
4	L-V	DOCTORS <PRESSURE> FOR NEW DRUGS	0.099	0.685	0.160	0.056	162	0.298	0.596	0.064	0.043	141

Z   5.35 -7.11 1.41   Z   3.06 -6.95 3.89
   *** ***   ** *** ***

GRADE COMPARISONS: H   2.29*   L   4.39***

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   17   PRIMARY

NORMATIVE DATA

		MGF VECTOR						TOT. %	BASE				--2ND SENTENCE--- P(VAL. P(GRAM.	
	WD*	S O TH GC SMCO N V A				N	VALID	N	P(N)	P(V)	P(A)	P(OT)	P(2) 2ND R) CHANGE)

		S O TH GC SMCO	N	V	A
		2 5 5B 5 3	1	0	9

873   2 5 5B 5 3 1 0 9   GR.9: 138 0.848   117 *0.077 *0.0   0.923 *0.0   0.846 0.803 0.234

SENTENCE EVALUATION TEST

------GRADE 6------   ------GRADE 9------

ITEM	FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
# 21	C	H-A	THE MEN GAVE THEIR <PRIMARY> REASON FOR NOT WORKING.	0.750	0.241	0.009	108	0.894	0.106	0.0	94
R		L-N	THIS YEAR, I HAVE DECIDED TO RUN IN THE <PRIMARY>.	0.546	0.444	0.009	108	0.926	0.074	0.0	94
							Z	3.13**			-0.76
A		A-*	YOU MUST <PRIMARY> THE WALL BEFORE PAINTING IT.	0.204	0.796	0.0	108	0.160	0.840	0.0	94

GRADE COMPARISONS :   H   2.63**   L   6.01***   A   0.81

HEADLINES TEST

------GRADE 6------   ------GRADE 9------

ITEM	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
# 20	A	H-A	PROSECUTOR PRESENTS <PRIMARY> EVIDENCE	0.123	0.407	0.191	0.278	162	0.496	0.255	0.092	0.156	141
0		L-N	CANDIDATE LOSES <PRIMARY>	0.235	0.278	0.222	0.265	162	0.574	0.177	0.128	0.121	141
			Z	-2.61	2.46	-0.69		-1.31	1.59	-0.95		
				**	*							

GRADE COMPARISONS: H   7.09***   L   6.04***

RESULTS FOR INDIVIDUAL WORDS

NORMATIVE DATA

LEVEL 3   18   SLEIGH

	MGF VECTOR				----DATA FROM FIRST SENTENCE WRITTEN----					--2ND SENTENCE----	
WD# S D TH GC SMCO N V A					TOT. % BASE N VALID N	P(N)	P(V)	P(A)	P(OT)	P(VAL. P(GRAM. P(2) 2ND R) CHANGE)	
1027 1 1 5A 4 1 R 2 0	GR.9: 147 0.646				95 0.937 *0.063 *0.0				*0.0	0.758 0.706 0.463	

SENTENCE EVALUATION TEST

-------GRADE 6------- -------GRADE 9-------

ITEM FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
#									
3 B H-N	THE SKI PATROL FOUND A <SLEIGH> IN ONE OF THE SNOWDRIFTS.	0.769	0.231	0.0	108	0.833	0.117	0.0	94
A L-V	THE GERMAN TEAM WILL <SLEIGH> DOWN THE NEW TRAIL FIRST.	0.481	0.519	0.0	108	0.574	0.426	0.0	94
		Z	4.36***				4.76***		
C A-*	THE ACTOR'S PERFORMANCE ON OPENING NIGHT WAS VERY <SLEIGH>.	0.324	0.667	0.009	108	0.245	0.755	0.0	94

GRADE COMPARISONS :   H   2.12*   L   1.32   A   1.38

HEADLINES TEST

-------GRADE 6------- -------GRADE 9-------

ITEM FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
#											
10 A H-N	<SLEIGH> FOUND IN SNOWDRIFT	0.414	0.222	0.216	0.148	162	0.574	0.227	0.128	0.071	141
B L-V	STUDENTS <SLEIGH> DOWN NEW TRAIL	C.321	0.302	0.191	0.185	162	0.447	0.355	0.113	0.085	141
		Z	1.73 -1.64 0.55				2.14 -2.36 0.37 *			

GRADE COMPARISONS: H   2.79**   L   2.25*

RESULTS FOR INDIVIDUAL WORDS

L 3   19   SPLINTER

NORMATIVE DATA

										----DATA FROM FIRST SENTENCE WRITTEN----				--2ND. SENTENCE---		
		MGF VECTOR						TOT. %	BASE							P(VAL. P(GRAM.
WD#	S D TH	GC SMCO	N	V	A			% VALID	N	P(N)	P(V)	P(A)	P(OT)	P(2)	2ND R)	CHANGE)
1059	13 7	4 1 7	3	0	GR.9: 138	0.884	122	0.893	*0.107	*0.0	*0.0			0.754	0.697	0.506

SENTENCE EVALUATION TEST

			-------GRADE 6-------				-------GRADE 9-------			
ITEM #	FM	SENTENCE	1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N
10	B H-N	THE DOCTOR REMOVED A <SPLINTER> FROM THE WORKER'S EYE.	0.907	0.083	0.009	108	0.957	0.043	0.0	94
	A L-V	THEY THREW BOMBS TO <SPLINTER> THE WORKERS' SHACKS.	0.426	0.574	0.0	108	0.585	0.415	0.0	94
		Z	7.51***				6.08***			
	C A-*	THE <SPLINTER> CAR RAN WELL AT HIGH SPEEDS.	0.278	0.722	0.0	108	?.255	0.745	0.0	94

GRADE COMPARISONS :   H   1.40   L   2.26*   A   0.36

HEADLINES TEST

			-------GRADE 6-------					-------GRADE 9-------				
ITEM #	FM	HEADLINE	1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
3	H-N	<SPLINTER> FOUND NEAR WORKER'S EYE	0.660	0.064	0.179	0.093	162	0.716	0.050	0.163	0.071	141
4	L-V	BOMBS <SPLINTER> WORKERS' SHACKS	0.099	0.580	0.235	0.086	162	0.220	0.624	0.099	0.057	141
		Z	10.42	-9.85	-1.23			8.35	-10.21	1.59		
			***	***				***	***			

GRADE COMPARISONS: H   1.04   L   2.90**

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   20   STRUCTURE

NORMATIVE DATA

	WD#	S	O	TH	GC	SMCO	%GF	VECTOR		
								N	V	A
	1090	3	4	7	4	1	9	-1	0	GR.9: 143 0.874.

-----DATA FROM FIRST SENTENCE WRITTEN-----						--2ND SENTENCE---		
TOT. %	BASE						P(VAL.	P(GRAM.
N VALID	N	P(N)	P(V)	P(A)	P(OT)	P(2)	2ND R)	CHANGE)
125	0.984	*0.016	*0.0	*0.0	*0.0	0.784	0.776	0.144

SENTENCE EVALUATION TEST

ITEM	FM	SENTENCE							
#			------GRADE 6-------				-------GRADE 9-------		
			1(R)	2(W)	N.I	N	1(R)	2(W)	N.I	N
13	B H-N	THE WORKERS COMPLETED THE NEW <STRUCTURE>.	0.880	0.111	0.009	108	0.904	0.085	0.011	94
C	L-V	AN AUTHOR MUST <STRUCTURE> THE CONTENT OF HIS NOVEL.	0.657	0.315	0.028	108	0.649	0.351	0.0	94
			Z	3.87***			4.20***			
A	A-*	A <STRUCTURE> WAVE CAUSED THE FLOODING OF THE STREAM.	0.454	0.537	0.009	108	0.351	0.649	0.0	94

GRADE COMPARISONS : H 0.56   L -0.13   A 1.61

HEADLINES TEST

ITEM	FM	HEADLINE									
#			-------GRADE 6-------					------GRADE 9-------			
			1(R)	2(W)	3(?)	4(NR)	N	1(R)	2(W)	3(?)	4(NR)	N
15	A H-N	NEW <STRUCTURE> COMPLETED	0.463	0.185	0.210	0.142	162	0.695	0.170	0.050	0.085	141
B	L-V	AUTHORS <STRUCTURE> CONTENT OF NOVELS	0.086	0.463	0.179	0.272	162	0.128	0.610	0.149	0.113	141
			Z	7.59	-5.34	0.70		9.63	-7.57	-2.79		
				***	***			***	**		

GRADE COMPARISONS: H 4.07***   L 1.17

RESULTS FOR INDIVIDUAL WORDS

LEVEL 3   71 TARRY

NORMATIVE DATA

	MGF VECTOR				----DATA FROM FIRST SENTENCE WRITTEN-----					--2ND SENTENCE--

WON   S D TH   GC SMCO N V A

TOT. % BASE
N VALID N   P(N) P(V) P(A) P(OT)   P(VAL. P(GRAM.
P(2) 2ND R) CHANGE)

111A   14 5A   6   4   0   C   1   GR.9: 147 0.367   54 *0.0   0.963 *0.027 *0.0   0.407 0.333 0.0

SENTENCE EVALUATION TEST

------GRADE 6------   ------GRADE 9------

ITEM FM   SENTENCE
#

		1(R)	2(W)	N,I	N	1(R)	2(W)	N,I	N

5   B   H-V   STUDENTS OFTEN <TARRY> ON THE WAY TO AND FROM SCHOOL   0.500 0.491 0.009 108   0.713 0.287 0.0   94

A   L-A   THE <TARRY> ROADS CREATED MANY PROBLEMS FOR DRIVERS.   0.546 0.417 0.037 108   0.596 0.404 0.0   94

Z -0.68   1.69

C   A-*   THE <TARRY> WAS THE VICTOR IN THE ELECTION.   0.306 0.685 0.009 108   0.266 0.734 0.0   94

GRADE COMPARISONS : H   3.08**   L   0.71   A   0.76

HEADLINES TEST

------GRADE 6------   ------GRADE 9------

ITEM FM   HEADLINE
#

		1(R)	2(W)	3(?)	4(NP)	N	1(R)	2(W)	3(?)	4(NK)	N

12   B   H-V   PEOPLE <TARRY> ON WAY TO WORK   0.327 0.370 0.080 0.222 162   0.574 0.248 0.071 0.106 141

A   L-A   <TARRY> ROADS CREATE NEW PROBLEMS   0.136 0.500 0.235 0.130 162   0.128 0.667 0.106 0.099 141

Z   4.08 -2.35 -3.81   7.86 -7.05 -1.05
***   *   ***   ***   ***

GRADE COMPARISONS: H   4.32***   L   -0.21

APPENDIX E

Sample Forms Used in the Main Study:

    (1) Sentence Evaluation test (titled "Word Uses")

    (2) Headlines test (labeled Form H-1A)

Note: The Sentence Evaluation booklet also contained

  25 items from the Wide Range Vocabulary Test, Form B,

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NAME_____   AGE_____   FORM _E - IA_

WORD USES

This is a test of how well you know the uses of certain words.

Look at the following three sentences:

    A.   They said it would be <u>clear</u> today.   A. (RIGHT) WRONG

    B.   It is very <u>blossom</u> outside.   B. RIGHT (WRONG)

    C.   We will <u>paint</u> in class today.   C. (RIGHT) WRONG

The first sentence is marked RIGHT because the underlined word <u>clear</u>, is correctly used.

The second is marked WRONG because it does not make sense to use the underlined word, <u>blossom</u>, in this way.

The third sentence is marked RIGHT because the underlined word, <u>paint</u>, is used correctly in that sentence.

Notice that this test has nothing to do with whether the sentences are true or not.

Now here are some more examples for you to try:

    D.   The children are going to <u>act</u> in a movie.   D. RIGHT   WRONG

    E.   The <u>escape</u> of the prisoner was not noticed   E. RIGHT   WRONG
          until yesterday.

    F.   We learned how to <u>large</u> in class today.   F. RIGHT   WRONG

Be sure to read every sentence carefully. Decide whether the underlined word is used correctly or not. Put a circle around RIGHT or WRONG for each sentence. If you are not sure, give your best guess.

Now you may open your test and begin.

1.	The hunters returned with a big <u>take</u>.	1.	RIGHT WRONG
2.	He told me his <u>age</u>.	2.	RIGHT WRONG
3.	They will work very <u>fill</u> to finish.	3.	RIGHT WRONG
4.	The man was <u>game</u> for the race.	4.	RIGHT WRONG
5.	Can you <u>stranger</u> it?	5.	RIGHT WRONG
6.	We got <u>free</u> candy at the movie.	6.	RIGHT WRONG
7.	The driver said he would <u>chance</u> the race in the snow.	7.	RIGHT WRONG
8.	We had a very <u>line</u> work to finish.	8.	RIGHT WRONG
9.	Our car <u>broke</u> down during our trip.	9.	RIGHT WRONG
10.	Dogs always <u>private</u> the mailman.	10.	RIGHT WRONG
11.	The <u>live</u> is almost ready to go.	11.	RIGHT WRONG
12.	The summer <u>season</u> will be here soon.	12.	RIGHT WRONG
13.	It was a very <u>grave</u> problem.	13.	RIGHT WRONG
14.	The children fell asleep at the <u>end</u> of the day.	14.	RIGHT WRONG
15.	Our teacher will <u>skirt</u> the problem for now.	15.	RIGHT WRONG
16.	We used a <u>train</u> piece of string to tie the box.	16.	RIGHT WRONG
17.	I have to eat very <u>mill</u> before mother comes back.	17.	RIGHT WRONG
18.	We will read each <u>page</u> in the book carefully.	18.	RIGHT WRONG
19.	Second graders can <u>name</u> the days of the week.	19.	RIGHT WRONG
20.	If you are lucky, you will <u>sight</u> a new star.	20.	RIGHT WRONG
21.	They were told to only <u>wish</u> for good things.	21.	RIGHT WRONG

NAME_____ AGE_____ FORM__H-1/._____

DO NOT OPEN THIS BOOKLET UNTIL TOLD TO DO SO.

This is a test of how well you understand newspaper headlines.
Here is a sample headline:

1. <u>CLEAR</u> WEATHER TODAY

What does this mean? You could say it means, "The weather will be sunny today."

FOR EACH HEADLINE, WRITE A COMPLETE SENTENCE THAT EXPLAINS ITS MEANING.

There is a special rule for this test: Each headline has one word <u>underlined</u>.
In your explanation, you are not to use this word, or another form of it.
You should find some different word or phrase to explain the meaning of
the underlined word.

In the example above, we used the word "sunny" to explain the meaning of <u>CLEAR</u>.

Here are more examples, with explanations already written:

2. FIRST SPRING <u>BLOSSOMS</u> SEEN

The first flowers of spring were seen yesterday.

3. CHILDREN <u>PAINT</u> SNOW PICTURES

The children made pictures of the snow.

4. BABIES <u>REST</u> AFTER EATING

The babies took a nap after they ate their dinner.

Now try these:

5. DOG <u>LEFT</u> BEHIND BY FAMILY

_____

_____

6. WATCHERS <u>SIGHT</u> NEW STAR

_____

_____

Remember to EXPLAIN WHAT THE HEADLINE MEANS, and <u>do not use the underlined word</u>
in your sentence.

1

1. NO <u>CHANCE</u> TO SAVE LIVES IN FIRE

_____

_____

2. <u>PRIVATE</u> GETS MEDAL

_____

_____

3. MORE PEOPLE <u>LIVE</u> IN CITIES

_____

_____

4. SALT USED TO <u>SEASON</u> FOOD

_____

_____

5. BODY FOUND IN <u>GRAVE</u>

_____

_____

6. COUNTRY GOING <u>BROKE</u>

_____

_____

TUDENTS WARNED NOT TO <u>MILL</u> ON STREETS

8. FRONT PAGE OF NEWSPAPER NEVER DULL

    _____

    _____

9. TEACHERS NAME BEST STUDENTS

    _____

    _____

10. TEACHERS TO END GRADING OF STUDENTS

    _____

    _____

11. LONG LINE EXPECTED FOR NEW MOVIE

    _____

    _____

12. WOMAN GETS SKIRT CAUGHT IN BUS DOOR

    _____

    _____

13. STUDENTS WISH SCHOOL YEAR OVER

    _____

    _____

14. BOY ABLE TO TRAIN OLD DOG NEW TRICKS

    _____

    _____

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15. <u>SIGHT</u> GIVEN TO BLIND BOY

_____

_____

16. HUNTERS RETURN WITH BIG <u>TAKE</u>

_____

_____

17. CHILD TELLS HIS <u>AGE</u>

_____

_____

18. WORKERS <u>FILL</u> HOLE

_____

_____

19. RUNNER <u>GAME</u> FOR RACE

_____

_____

20. MAN TELLS OF <u>STRANGER</u> THINGS TO HAPPEN

_____

_____

21. <u>FREE</u> CANDY AT MOVIE

_____

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