9-16-1994

Computer Grammar Checkers and ESL Writers

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The abstract and thesis of Robert Lee Gaynor for the Master of Arts in TESOL were presented September 16, 1994, and accepted by the thesis committee and the department.

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ABSTRACT

An abstract of the thesis of Robert Lee Gaynor for the Master of Arts in TESOL presented September 16, 1994.

Title: Computer Grammar Checkers and ESL Writers

The use of word processors has become common in writing instruction for students of English as a second language (ESL). Recent developments in microcomputer technology have increased the number of "tools" or writing aids that are incorporated into word processing programs. Among these are computer style and grammar checkers, programs that attempt to identify and diagnose stylistic, grammatical, and mechanical problems in writing.

This study examines the suitability of commercial grammar checking programs for use by ESL writers through descriptive analysis of program features and evaluation of accuracy. The programs evaluated are Grammatik 5, Microsoft Word 6.0 and Correct Grammar (both using CorrecText as an underlying system), and Right Writer 6.0.

The principal issues explored in the descriptive analysis are comparative ease-of-use, the nature of diagnostic advice and tutorial information, and modification capabilities of each program. The analysis shows that

grammar checking programs that are part of word processing programs (e.g., Word Perfect and Microsoft Word) are easier to use, but lack key components that permit modification of advice messages and tutorial information, or addition of new error patterns.

The evaluation of accuracy examines program performance in terms of error types the programs were designed to identify in relation to errors common in ESL writing. In a test of sample sentences, the overall accuracy rate for the most successful program, Grammatik 5, was only 50%. Microsoft Word and Correct Grammar were second with 42%; Right Writer 6.0 was the weakest, with a score of 25%.

Program accuracy was substantially reduced in analysis of a sample student essay. Microsoft Word and Correct Grammar performed best, but with only 21% accuracy. The score of Grammatik 5 was reduced to 17%, and that of Right Writer 6.0 to 13%. This suggests that student writing contains a larger number of errors the programs cannot identify than do the test sentences. In addition, sentences in the essay contained multiple errors, while most of the test sentences contained only one error. Low accuracy rates might be improved by rule modification features of stand-alone versions of programs such as Grammatik 5 and Correct Grammar.

COMPUTER GRAMMAR CHECKERS AND ESL WRITERS

by

ROBERT LEE GAYNOR

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS
in
TESOL

Portland State University
1994

ACKNOWLEDGEMENTS

I would like to thank Marjorie Terdal for her support and encouragement as my thesis advisor and throughout my entire term of study at Portland State University. I also wish to thank Beatrice Oshika for encouraging me (and all linguistics students) to investigate subjects in the field of computational linguistics (it really isn't as difficult as transformational grammar). Thanks also to Jane Dresser for her sound advice, proofreading, and good humour (British spelling). I also want to thank the ESL instructors, the 1993-1994 teaching assistants, and my fellow students for their friendship and support during the last year. Finally, a big thank-you to my roommate, Thea Lander, especially for sacrificing her air conditioner so I could continue writing during the dog days of summer.

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CHAPTER I

INTRODUCTION

The value of the word processor as a writing tool is widely recognized. Its introduction in educational settings is seen as both an efficient way to help cope with increasing numbers of students and diminishing financial resources, and as the most expedient means of helping "the severe problem writer" (Hancock, 1985, p. 13). The fundamental utility of the word processor is that it greatly facilitates the mechanical processes associated with revision and editing. Writers can easily scan a document, make deletions or additions, and even move whole sections of the manuscript from one place to another, with technology replacing the scissors and glue once recommended by Boiarski (1980). Although the opinion that the use of word processors results in significant improvements in writing is not unanimously accepted (Dean, 1986), many teachers believe that writers using word processors are more likely to make significant revisions than writers using traditional writing tools (Herrmann, 1985).

Microcomputers that support word processing programs have become a standard fixture in offices, homes, and schools. With greater memories and faster processors, these computers are able to support a wider variety of increasingly

sophisticated programs, many of which previously required mainframe systems to operate. For writers, this has meant an increase in the number of computational "tools" available to assist them in their writing. Spelling checkers and thesauri are probably the most common. Spelling checkers are generally useful and accurate, because their task is relatively simple; they match a string of letters to see if the same set appears in their dictionary.

Research in natural language processing has added another tool to the repertoire, the computational text analyzer or grammar checker. Although the operation of this feature includes string matching capability, the task is unquestionably more complex and the results less consistent.

STATEMENT OF THE PROBLEM

Currently, there are a number of commercially produced software programs available that can be described as grammar checkers and/or style analyzers for user-generated free text, including, Grammatik, PowerEdit, RightWriter, Correct Grammar, Electric Webster, and Editor. Most of these programs have certain features in common: they all attempt to identify errors in syntax and punctuation, and many claim to analyze writing style by tracking and tallying lexical and structural items and comparing them to pre-determined frequency standards, or matching them to items listed as problematic, or inserting the numbers of syllables per word

into a "readability" formula. Because the style analyzing features employ straightforward tabulation and matching techniques, performance is reasonably uniform from one system to another. Accurate identification of structural errors, however, varies considerably from one program to another, as does ease of use and appropriateness of suggestions for corrections (Rabinovitz, 1991).

Because the error identification components of these systems are based on patterns of inadvertent errors made by native writers (Dobrin, 1990), several researchers have attempted to develop original programs or modify existing ones so that they will capture errors likely to be made by inexperienced or non-native writers (Liou, 1991; Hull, 1986; Thiesmeyer, 1984; Garton, 1993). While the independently designed systems are not available for general public use, the commercially produced systems have become standard features of many word processing programs (e.g., Word Perfect , Microsoft Windows, and Lotus Ami Pro), and are likely to be encountered by second language writers, both in academic and occupational settings.

Teachers of English as a second language (ESL), are left with the problem of if, when, and how they should incorporate text analysis programs into their writing courses. Recently, an inquiry was posted by electronic mail to the Teachers of English as a Second Language List (TESL-L) bulletin board asking about experiences of any teachers subscribing to the

list who had used grammar checkers with their writing students. The replies were mixed. One teacher in Mexico City wrote that he used Lotus's Ami Pro grammar checker with his Business English students, and they found it "quite satisfactory" (Bowers, 1994). Another teacher wrote the following:

> I believe that spelling and grammar checkers are like Dr. Jekyll and Mr. Hyde. The spelling checker is an invaluable proofreading tool which can save a student or teacher hours of time.... The grammar checker, on the other hand, is a useless encumbrance, because, like the spelling checker it can only search for discrete, continuous strings of text with a model string, as in a dictionary. (Ross, 1994)

The writer went on to say that he thought the readability statistics were the only useful aspects of the grammar checking programs, even though these statistics are "theoretically disreputable." A third teacher had a somewhat more positive view:

> The point of grammar checkers is not that it helps them [students] produce a perfect text; rather, that they have think about why the computer highlighted a string and consciously monitor their written output. As a result of this computer induced "noticing," I hope that the dialogue with self (or a partner) about overt grammar knowledge will start to work itself back into the "black box" leading to better instincts about sentence construction. (Houstin, 1994)

This opinion suggests that students can use the grammar checker as a point of departure to evaluate structure, rather than treating the program as an absolute authority. The fact that the program is inconsistent in identifying errors serves rather than hinders the learning process. A similar point of view was expressed by Daiute (1985):

> Researchers and teachers have observed that, since the computer is not always "right", the student who uses text analysis programs gains a new kind of control over the text and the revising process. As the automatic analysis draws the writer's attention to text features, the writer maintains control by rereading the text carefully and making decisions about how it sounds. (p. 127)

In addition to the teachers above, several other subscribers responded by expressing both a lack of knowledge and a curiosity regarding grammar checkers, along with requests for any information collected in this research project.

Teachers who choose to introduce text analysis to their writing students must be able to assess a program's general accuracy as well as its limitations regarding the kinds of errors identified and the appropriateness of correction messages, particularly as these relate to the needs of ESL students and to the teachers' own educational philosophies.

BACKGROUND

I first became interested in computer grammar checking programs when taking a course in computational linguistics at Portland State University. A writing teacher in the intensive English as a Second Language Program asked me if grammar checking systems had been a topic of discussion in the class. Some of his students had told him they used such programs to help them edit their written assignments, and he wondered how a computational system could possibly analyze unconstrained user-generated prose.

In the computational linguistics class, analysis of

natural language had been extensively explored in areas such as natural language data-base input and query, machine translation, and tutorial programs for computer-assisted language learning (CALL), but this specific application had not been discussed. Of course, all of the ingredients seemed to be available; all of these applications required some degree of structural analysis of language. The CALL applications, in particular, needed to identify when learners made mistakes, and often provided tutorial exercises related to specific mistakes. Most of these applications were highly constrained, however. The type of language used was limited by the subject domain or the task to be accomplished. Because of a knowledge gap regarding the grammar checking application, I decided to explore the subject as a research project for that class.

Historically, style analyzers, such as Bell Laboratory's Writer's Workbench, preceded grammar checkers, and performed functions such as counting prepositions, "be" verbs, nominalizations, and passive voice structures. They also tallied simple, compound, and complex sentences, along with frequency of word usage, and assigned a "readability" score to a given text. Using a stored list of problematic items, they identified vague, wordy, or misused words and phrases (For a complete description of features, see Kiefer and Smith, 1983, 1984, 1989).

In early incarnations, grammar checking programs were

designed to target only specific words or phrases that had a high probability of being incorrect, and flagged them every time they occurred. For example, the word "there" would be marked each time it appeared in a text because it is often mistakenly written as "their". To overcome the limitations of this item-for-item matching, Hull and others (1986) designed a system that targeted classes of errors. For example, their program included an instruction that read, "Search for the pattern to + verb past participle," in order to capture incorrect combinations in the use of infinitives (e.g., *We had to cooked everything ourselves.). Unfortunately, this rule would create false alarms, as in the sentence, "If Arnold did not have the proper body chemistry, he would not have been able to become Mr. Olympia seven times", and would miss the pattern if there were intervening words between "to" and the verb, as in "I want to really looked" (Hull et. al., 1986, p. 110). Another pattern (to + adverb + verb ending in -ed) was needed to flag this error. The researchers soon realized that innumerable patterns would have to be specified. As a result, they decided to develop a natural language parser that would fully analyze sentences in order to look for correct structures and reject incorrect structures. They concluded that the best system would be one that included both syntactic analysis and pattern matching rules, a concept that was exploited in a grammar checker developed for Taiwanese learners (Liou, 1991), and in some commercial programs, such

as PowerEdit (Rabinovitz, 1991) and Correct Grammar (Dobrin, 1990).

In a review of grammar checking software (using made-up sentences with errors common to native speakers), Rabinovitz (1991) found that although there was a wide range of variation, the most powerful of the programs, Power Edit, correctly identified only 50 per cent of the errors, and incorrectly tagged about 20 per cent of the correct sentences. He indicated that this number could be significantly enhanced by taking advantage of the program's customization and rule modification features. According to Garton (1993) similar capabilities are incorporated into the latest version of Grammatik, which is now a standard component of Word Perfect.

PURPOSE OF THIS STUDY

One aim of this study is to further explore the operation of text analysis programs from the point of view of computational linguistics and natural language processing. An examination of various commercial programs' performances provides insight into the strategies that are employed to analyze syntax and identify errors. These range from programs that seek a complete structural analysis, such as Correct Grammar to those that employ *ad hoc* strategies, such as Write Righter (Dobrin, 1990). Conversely, information derived from research in natural language parsing (as in Winograd, 1983 and Sanders & Sanders, 1989) helps to explain the limitations of

the programs examined.

Regarding the use of commercial programs in ESL instruction, this study seeks to determine if any available programs may be more suitable for use by second language writers, particularly in terms of accuracy, types of errors selected, and appropriateness of advice. These issues are examined through objective comparison of product performance when analyzing a set of sentences designed to present a wide range of errors, including those common to ESL students. The programs are also evaluated regarding their analyses of actual samples of ESL students' writing.

In evaluating the use of grammar checking programs by non-native writing students, it is germane to consider several issues that are currently of concern in the field of language and writing teaching in general. Those who consider it important to correct errors must decide when and how to correct as well as which errors have the highest priority (Hendrickson, 1978; Hull, 1987). It is also necessary to address the issue of whether the use of any computational text analysis system can be productively incorporated into a writing approach that emphasizes the process of writing and revising, rather than just the final product (Pennington, 1992).

DEFINITION OF TERMS

ESL Student: A student whose native language is not English,

and who is studying English at a university.

Error: Any "utterance, form, or structure that a particular language teacher deems unacceptable because of its inappropriate use or its absence in real-life discourse" (Hendrickson, 1978, p. 387).

Global Error: An error that interferes with communication. An error that affects overall sentential organization (Burt, 1975).

Local Error: An error that affects single elements in a sentence. An error that does not hinder communication significantly (Burt, 1975).

Revision: Rewriting of material that involves changes in organization and content, as well as resolution of global errors.

Editing: Changes made to written material that involve corrections in punctuation, spelling, and other local errors.

Process Writing: Teaching approach in which students write and revise various drafts of a paper. The process usually involves discussion with the teacher and/or other students between drafts.

Style Analyzer: A computational program that scans a text for items listed as problematic, and also creates descriptive statistics based on features in a writing sample, in order to compare them

with pre-set standards.

Grammar Checker: A computational program that attempts to identify structural or semantic errors in written discourse.

Parser: A computational system that decomposes a sentence or phrase into its grammatical constituents in order to construct a tree diagram or similar representation of the sentence structure (Winograd, 1983).

Algorithm: An encoded computational procedure for solving a given problem.

Natural Language: The term used to describe languages such as English, Japanese, or Tagalog, in order to distinguish them from artificial languages such as programming languages (Winograd, 1988).

STATEMENT OF RESEARCH QUESTIONS

This study is divided into two parts: a descriptive analysis of program features and operation, and an objective evaluation of program accuracy.

Questions addressed in the descriptive analysis are listed below:

1. How difficult are the programs to use? For example, what steps are necessary to enter a program, make corrections, and return to a text?

2. What categories of errors do the programs address?

3. What is the nature of the diagnostic messages and tutorial information provided to users, and how are they presented?

4. Do the programs allow instructors to create or modify diagnostic messages or tutorial advice? What is the procedure for doing so?

5. Do the programs allow instructors to create new error patterns or rules? What is the procedure for doing so? Can existing rules be turned on or off?

The following programs were examined: Microsoft Word with CorrecText, Correct Grammar, Grammatik 5 (Word Perfect 6.0 version), and Right Writer 6.0.

Questions addressed in the evaluation of program accuracy are as follows:

1. For the error types that the programs claim to detect and diagnose, how do different programs compare in rate of accuracy, particularly when checking for errors common to ESL students?

2. How do different programs compare in their rate of accuracy when analyzing a sample of actual text written by an ESL student?

3. What is the accuracy rate for particular types of errors, such as subject/verb agreement, run-on sentences, and verb tenses?

4. What proportion of correction messages represent implicit correction, pointing out of errors, or direct correction?

These questions were examined by recording the responses of each grammar checker when analyzing a body of test sentences as well as a sample student essay.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter provides an overview of prevailing attitudes of language teachers and researchers concerning error, correction, revision, and editing in order to assess the suitability of computer grammar checkers for use in ESL writing instruction. A section on natural language processing is included to provide background for understanding the operation of style analysis and gramamar checking programs. The use of such programs in educational settings is discussed, along with reported benefits and criticisms. Finally, studies that examined the accuracy of commercial grammar checkers when analyzing ESL writing are discussed.

ERROR AND ERROR CORRECTION

Historical Perspectives

Various trends in language teaching during the past few decades have resulted in differences in the way errors in language learning are viewed and treated. Hendrickson (1978) provides a summary of these points of view. The audiolingual approach regarded error as failure to learn and prescribed

immediate correction by teachers. Contrastive analysis provided an exhaustive comparison of the differences between languages, in the belief that these differences caused interference in learning. Teachers used these analyses as the basis for lessons and designed materials to help students avoid producing errors. Beginning in the late 1960's, the effects of studies in transformational grammar, first language acquisition, and cognitive psychology resulted in a shift away from audiolingualism to more learner-centered approaches that looked on error more positively. Errors were seen as creative experiments that were a natural part of acquiring both first and second languages. Because an emphasis was placed on communication over correctness, many teachers came to have a greater tolerance for errors in oral and written communication. However, recent studies have shown that correction of both oral and written errors increases at least some learners' target language proficiency more so than if their errors are not corrected (Burt, 1975; Hendrickson, 1978; Lalande, 1982; De Keyser, 1993).

Current Issues

Since most teachers now feel that some form of error correction is useful, they must decide which errors to correct, as well as when and how to correct them. Because global errors are more likely to interfere with communication than local errors, it has been suggested that they should have priority (Burt, 1975). Celce-Murcia and Hilles (1988) offer

the following sentence as an example:

"English language use much people" (p. 20).

This sentence contains one global error (word order) and two local errors (subject-verb agreement and missing article). If only the global error is corrected, the sentence becomes understandable:

"Much people use English Language" (p. 20).

However, if only the local errors were corrected, the meaning of the sentence is still unclear:

"The English language uses many people" (p. 20).

Celce-Murcia and Hilles also suggest that any errors that will stigmatize a learner should also be given priority. In American English these might include structures such as "He don't" or "ain't." A type of error that is recommended for early correction are those errors that the learner produces frequently (Hendrikson, 1978). According to Burt, however, local errors in grammar should not be overlooked if the learner wishes to achieve near native proficiency, but communicative needs should be attended to first.

LaLande (1982) has suggested several components of an effective correction strategy. The first suggestion is that error correction be comprehensive. In LaLande's opinion, selective correction is less permissible in writing than in spoken communication. Hendrickson (1978) expresses the opinion, however, that students are likely to feel more confident using the target language when teachers ignore at

least some errors. Chapin (1988), in a study of five university-level ESL writing teachers, found that all of the teachers addressed most of their students' errors, though the stage of the writing process in which they did so varied from teacher to teacher.

LaLande's second suggestion is that teacher marking of compositions be systematic and consistent to avoid confusing students. Chapin also found teacher inconsistency to be problematic for students. When students assumed that teachers were correcting all of their errors, they usually did not correct any errors that were unmarked, even if the exact error had been previously marked several times in the same essay.

While the teachers in Chapin's study differed as to when they attended to errors, they all used direct correction most frequently. Direct correction, in which a teacher tells a student how to correct a problem or simply writes the correct form, accounted for 75% of the total number of corrections made. Hendrickson claims that direct correction of error has no significant bearing on a writer's proficiency. This is supported by Chapin's finding that, in most cases, students simply copy out the corrections made by their teachers whether or not they understand why the structure was incorrect. Rather than correcting errors directly, Lalande recommends that teachers make editing a guided learning and problem solving activity in which the learner discovers the correct form. This can be accomplished if teachers supply students

with only a yes-or-no indication of correction or use some kind of coding system to indicate the type of error that has been made. Chapin, however, found that some students did not respond to such implicit corrections because they were unable to determine what was wrong with the structure. She concluded that encoded systems of correction seem to be helpful only "for students who have a resource to which they can turn if they do not understand their teacher's comments, or if their knowledge of English syntax is advanced enough so that they are able to interpret their teacher's comments correctly" (p. 89). For example, if a teacher identifies an error by writing a comment such as "subordinate clause", the student must understand the meaning of the terminology, have knowledge of or access to rules related to the use of subordinate clauses, and be able to reason out how this knowledge relates to the grammatical problem at hand.

In addition to using a coding system, Witbeck (1976) also recommends the implementation of peer correction procedures. He adopted a coding system because he found, like Chapin, that students often did not know what to look for if they were not provided with any clues whatsoever. One of the advantages of peer correction, according to Witbeck, is that it gives students extensive practice in editing skills. It also provides more opportunity for student to student communication, and may reinforce and expand the understanding of the student who is doing the correcting. Finally, it helps

students to see errors as a natural part of the learning process and not as learner deficiencies.

Implications for Computational Text Analysis

The preceding discussion of error correction suggests several features that may be necessary for a grammar checking program to be effective. One is that the program be able to correct the kinds of errors that are frequently made by ESL writing students. Shaughnessy (1971) lists common errors for native writers in Freshman writing classes as being related to choice of verb form, tense switches across sentences, pronoun case, dangling modifiers, and broken parallels.

Dalgish (1984, 1991) examined several hundred essays written by ESL students from more than twelve language groups. The following error types were identified in the students' essays: article system, subject-verb agreement, vocabulary and idiom, confused part of speech, verb tense, verb forms, word order, prepositions, sentence boundary (run-ons), pronouns, and others. Out of a total of 24 error types identified, the five most frequent were errors in vocabulary and idiom, subject-verb agreement, prepositions, articles, and verb-form (verb tense was dealt with as a separate category).

Kroll (1990) examined 100 essays by 25 advanced ESL students. Excluding errors in punctuation, the most frequent error type was again related to choices in vocabulary and idiom. This was followed by errors in articles, verb tense, prepositions, word form, singular for plural forms, subject-

verb agreement, verb forms, run-on sentences, and word order. Patterns of errors within various categories may also vary between native and non-native writers. For instance, Amberg (1984) describes verb form errors for ESL students as basic problems of construction rather than merely choosing the wrong form.

Although the relative frequency of errors differs somewhat between Kroll and Dalgish's studies, the error types listed are quite similar. In addition to being able to identify the types of errors listed here, it may also be important that grammar checkers identify them consistently, and that teachers have the option of choosing comprehensive or selective identification.

Another important consideration is the type of comments that the grammar checker provides in response to identified errors. Hendrickson, Chapin, and Lalande all agree that direct correction may be the least effective means of increasing students' own understanding of the nature of the error and how to correct it. Moreover, while less direct correction may be preferable, it is important to provide students with additional resources, either within the program or externally, to insure that students understand how an error message relates specifically to the problem structure. Such resources might include "help" messages within the program, grammar or editing guides, assistance from the teacher or other native speakers, and cooperative activities such as peer

editing.

REVISION AND EDITING

Process and Product

Connor (1987) traces the succession of three "paradigms" in writing pedagogy. The first is the traditional product-centered approach. In this approach, which emphasized expository writing, the writing process was seen as linear; writers planned their writing before they wrote, then wrote what they had planned. The quality of the writing was largely judged by adherence to stylistic standards and correctness of form.

The advent of the process-centered approach, the second paradigm, shifted attention from the final product and centered it on the strategies that good writers use to develop ideas as well as the audience, purpose and context of writing. Rather than progressing in a linear fashion, writing was seen as a recursive process in which planning, writing, revising, and editing might take place at any stage, occur simultaneously, or interrupt one another (see also Flower & Hayes, 1980).

The third paradigm advocates an integrated theory of process and product. According to Connor, "the role of product is becoming recognized not only in writing research, but also in the teaching of writing, in which experts are calling for a renewed interest in student texts and revisions"

(p. 678). This does not, however, mean a return to the traditional product approach. While product is more likely to be considered in an integrative approach, the emphasis is on cohesion and coherence along with topical and rhetorical organization, rather than surface grammatical errors. The goal for writing teachers is to help their students to learn how to "place their text in a proper context, support main ideas with more details, and revise freely without being bound by the order of ideas in the original passage" (p. 690).

Revision and Editing Strategies

While the previous discussion on error correction centered on determining higher priority errors and ways they might be corrected, this section deals with the question of when to correct errors in a writing approach that is based on a process or integrated theory. While the concept of recursion in the writing process seemed to abandon the idea of writing as a linear process, Chapin (1988) concluded that teacher intervention in the process necessitates writing in stages, represented by various drafts. She found that when teachers focused primarily on surface errors in early drafts, students corrected local errors but rarely made other kinds of revisions. On the other hand, when teachers responded to content, particularly in requests for more information, students were much more likely to add substantial additional material to their essays.

When considering the writing process, Sommers (1982)

recommends making a well-defined distinction between revising and editing. She suggests that teacher feedback in first or second drafts "...should point to breaks in logic, disruptions in meaning, or missing information" (p. 155). As she states, "there seems to be no point in having students correct usage errors or condense sentences that are likely to disappear before the next draft is completed" (p. 154). After organizational and content issues are dealt with, then students can focus on the more mundane problem of editing for local errors.

Implications for Computational Text Analysis

Commercial grammar checking programs are designed primarily to identify only surface errors related to grammar and punctuation (Rabinovitz, 1991). Since they analyze only individual sentences, they cannot assist students in expanding ideas, clarifying points, or reorganizing rhetorical structure. If the use of such programs is introduced too early in the writing process, the results are likely to be the same as when writing teachers focus on surface structures in early drafts of a piece of writing. It is likely to be a fruitless endeavor, as Sommer suggests, or may even inhibit students from making broader revisions, as Chapin indicates.

Boiarski (1980) separates various aspects of the revision process into eleven categories: altering form, reorganizing material, creating transitions, deleting materials, expanding information, subordinating ideas, creating immediacy,

improving language usage, improving syntactic structures, and "cleaning up" or editing grammar, spelling, and other mechanical matters. Of these, only the last three may possibly be assisted by the use of a grammar checking program.

COMPUTATIONAL TEXT ANALYSIS

Types of Programs

Wresch (1980) describes six types of text analysis programs that are gaining popularity in educational settings. These include error checkers, reformatters, audience awareness programs, conferencing utilities, utilities, and automatic graders.

Error Checkers. The most commercially successful of text analysis programs, these are defined by Wresch as programs that don't "actually analyze text, but search it in the same manner as a spell checking program" (p. 13). These programs have grown more complex and now use rule-based techniques to identify errors, as well as string matching as described by Wresch. Although Wresch acknowledges their limitations, he claims the programs are popular because students have the opportunity to correct errors before teachers see their papers, and because the programs address errors when students are actually engaged in the editing process.

Reformatters. These are programs that perform functions such as displaying text graphically or sentence by sentence, or by highlighting certain types of words such as those used

in transitions. Some programs, such as Conduit's Writer's Helper, also provide an "outlining" feature that displays only the first and last sentences of each paragraph. By viewing their text in different formats, writers are able to examine the text for variety and organizational features.

Audience Awareness Programs. These consist mainly of various "readability" formulas that supposedly compute the grade level of the "optimal" reader. One of the most common of these is the Flesch Reading Ease Score, which is described in the Correct Grammar (1992) user's manual:

> The Flesch Reading Ease Score is based on the number of words in each sentence, and the average number of syllables per word. On this scale, "standard" writing has an average of 17 words per sentence, with 147 syllables per 100 words. Writing at this level earns a score of about 70 to 80. The highest score, 100, represents the easiest writing level, about 4th grade. Scores of 0 to 30 are considered college graduate level. (p. 92)

Wresch admits that most programs offer little or no advice on how to adjust the readability of a given piece of writing to make it suitable for a particular audience.

Writer Conferencing Utilities. These are programs that incorporate procedures for holistic peer review. Writer's Helper includes this feature, which is simply a series of questions that students answer about the content and organization of other students' writing.

Grading Utilities. These programs allow teachers to use notation features to insert comments of any length into a student's text. The messages can be associated with

particular keys, allowing the teacher to insert previously written messages with a single keystroke. Some programs also keep track of the class totals for particular errors (see also Renshaw, 1991).

Automatic Graders. Programs such as these are designed to provide total automatic grading by computer. They use formulas based on paper length, sentence length, level of subordination, and word length. According to Wresch, these criteria have been tested for correlation with holistic grading systems.

Wresch attributes the growing popularity of such programs to a variety of factors. In his opinion, writing analysis programs can be helpful to students and teachers in improving students' knowledge of standards in spelling, punctuation, and grammar. Teachers benefit in that they can be at least partially relieved of the tedious task of correcting mechanical errors in students' papers.

This survey of commercially produced programs makes it apparent that virtually all aspects of writing instruction have been considered in the development of text analysis applications. It is doubly apparent that when teachers consider implementing these programs, they must be able to determine whether the most expedient method of analysis is also the best method. The decision involves not only the teachers' theoretical perspective and the needs of their students, but also some knowledge of the underlying operation

and limitations of these programs. Grammar checkers and other applications are becoming increasingly more "intelligent", employing techniques that go beyond the simple pattern matching described by Wresch (Chappelle, 1989). The following section will discuss some of the principles in computational linguistics that form the basis of text analysis systems.

Natural Language Systems

Winograd (1983) lists seven practical computer applications for natural language processing: machine translation, information retrieval, human-machine interaction, text analysis (in Winograd's description this is limited to the kind of statistical operations performed by style analyzers), knowledge acquisition, computer aided instruction, and aids to text preparation (e.g., grammar checkers). These applications require more than an ability to encode and retrieve strings of words or sentences; through their data and programs, they must model to some extent the knowledge and processes that human beings use when producing or understanding language. Although such systems do not comprehend meaning in the way that humans do, they incorporate procedures for processing syntactic, morphological, and lexical information.

Parsing. Sanders and Sanders (1989) define a parser as "a computer program that matches an input string to a pattern by using a parsing algorithm" (p. 14). An input string is described as a sequence of words with punctuation; a pattern

is defined by a set of structural rules (grammar), and a parsing algorithm is a specification of the matching procedure (e.g., top-down or bottom-up processing). Depending on the task for which it was designed, the grammar and lexicon of a parser may consist of only a small subset of a language, or may be a "full natural language system," encompassing as much of the language's grammar and vocabulary as possible. A lower-level CALL application, for example, may be limited only to rules for structures the students are likely to produce in their problem solving (Cook, 1988), but a system for text critiquing, such as a grammar checker "needs as complete a structural description (grammar) and vocabulary (lexicon) of the language as necessary to cover all the language used by students in their writing" (Sanders & Sanders, 1989, p. 14). Ultimately, a parser produces and saves a representation of structural constituents, such as a phrase-structure tree. This differentiates parsers from "recognizers," which can determine the grammaticality of a sequence of words, but do not produce a structural representation (Winograd, 1983).

The Lexicon. Before constructing syntactic structures, the parser first searches a list of words (lexicon) to see if those in the input string are included in its vocabulary. Lexical entries indicate the part of speech classification for each word, and may include additional information such as number, person, count-noncount classification, and even verb tense and form. Since listing all the possible inflections of

a word greatly increases the size of the lexicon, alternative procedures have been developed. One method is to list only word stems in the lexicon and apply a "suffix processor" to the input string. Such a processor contains knowledge about suffixes associated with word categories, singular and plural forms, and inflectional markers for verbs. Irregular forms can be listed in a special category (see Liou, 1991, p. 9).

Types of Grammars. According to Sanders and Sanders (1989), there are four major types of grammars that are used in natural language processing. They are phrase-structure grammar (context-free and augmented), augmented transition networks, logic grammars, and categorial grammars. Of these, the first three are the most common. The last, categorial grammars, are unique in that grammatical information is represented in the lexicon rather than in a separate grammar, but they are the least commonly used (for a more detailed description see Winograd, 1983, p. 115).

Phrase Structure Grammar. Phrase structure rules are familiar to linguists as the set of rewrite rules used by Chomsky (1957) in his theory of generative syntax. They are so named because they "specify how sentences are structured out of phrases and phrases out of words" (Radford, 1981, p. 41). The rules listed in Figure 1, for a sample "language" that has only twelve words and consists entirely of noun phrases, are illustrative of the type used in computational parsers. The grammar specifies that a noun phrase must

contain a determiner, an adjective, and a noun. As indicated by the symbol 'E', intensifiers and prepositional phrases are optional. The grammar also indicates how prepositional phrases that occur within the noun phrase may be further broken down. This grammar is referred to as *context-free*

```
<NP> --> <DET> <INTENS> <ADJ> <NOUN> <PP>
<DET> --> a ¦ the ¦ this
<ADJ> -->  big ¦ little
<NOUN> --> boy ¦ girl ¦ dog ¦ cat
<INTENS> --> E ¦ very ¦ very <INTENS>
<PP> --> E ¦ <PREP> <NP>
<PREP> --> with ¦ beside

NP = Noun Phrase       DET= Determiner
INTENS = Intensifier   ADJ= Adjective
PP = Prepositional Phrase
PREP = Preposition
¦ = "or"
E = empty string
```

Figure 1. Context-free Phrase Structure Grammar
Reproduced from Sanders & Sanders (1989, p. 20)

because it imposes no co-occurrence or other contextual restrictions on constituents. If the lexicon, for example, included plural nouns, there would be no rule against preceding it with a singular determiner, such as "a". To be context-sensitive the grammar requires additional information or "augmentation." This may be partially accomplished in the lexicon, as discussed previously, by adding information about number, person, etc., and in the grammar by applying conditions (such as number and person agreement) to the combination of syntactic constituents. Linked to lexical or

syntactic features, these conditions can be applied to pairs of words as they occur in a sentence (for example, "a" is a singular determiner and must be followed by a singular common noun) or to larger constituent structures, as in number agreement between a noun phrase and a verb phrase (Loritz, 1992).

Augmented Transition Networks. A set of phrase structure rules may be represented graphically through the formalism known as the Augmented Transition Network (ATN) (see Woods, 1970). According to Sanders and Sanders, the ATN is possibly the most popular formalism currently being used in natural language processing. It provides a concise representation of a grammar with the same potential as phrase structure rules "to characterize infinitely many sentences of English, with a large variety of constituent structures" (Fromkin & Rodman, 1988, p. 181).

The two components that make up an ATN are a Recursive Transition Network (RTN) and an augmentation register. The RTN shown in Figure 2 represents the same grammar defined by the rules in Figure 1. The circles (a-f) in the diagram represent "states" in a series, in this case words or phrases occurring in sequence. The arcs (1-6) represent the transitions from one state to another, and are labeled by the part of speech that allows the transition to take place. Potentially empty strings (optional constituents) are represented by "jump" arcs.

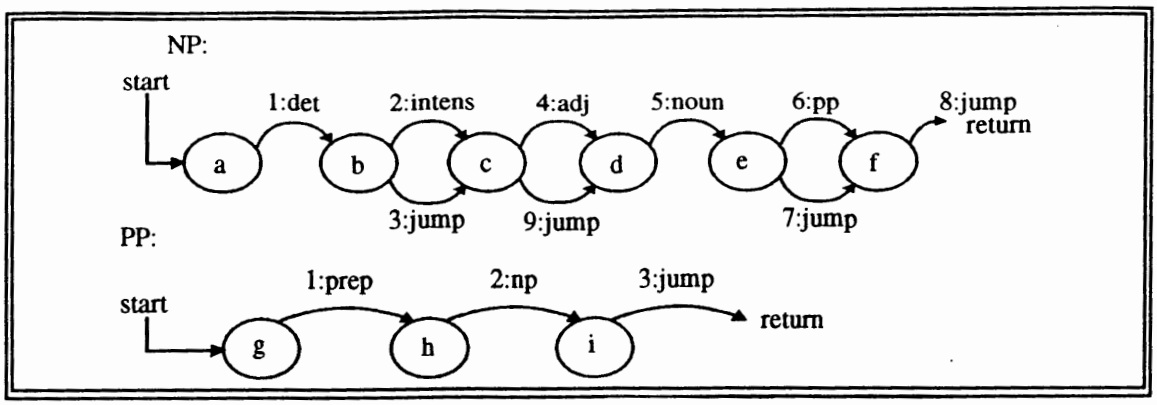

Figure 2. Recursive Transition Network. Reproduced from Sanders & Sanders (1989, p. 21).

Special Considerations for Instructional Applications

For most of the natural language applications listed previously, such as information storage and retrieval, and human-machine interaction, the detection or correction of grammatical errors made by users is not a significant factor. In fact, these systems may be purposefully designed to "overgeneralize," that is to achieve a successful parse *despite* the presence of incorrect or unconventional grammatical structures. While this is seen as an advantage in many applications, in CALL applications or text preparation aids, such as grammar checkers, overgeneralization is counter-productive. Furthermore, it is not enough for these applications simply to determine whether a structure is grammatical or ungrammatical; they must also provide the user with an indication of what the error is and, perhaps, some suggestions for correction (Sanders & Sanders, 1989).

It is possible for some grammatical errors to be identified by the parser. If a parse fails, for example, due to violation of a parsing rule, the program can be designed to provide a message to the user indicating which parsing rule was violated. Another technique is to have a parser "relax" rules one by one until a successful parse is achieved. The system can then diagnose errors based on which rules have been relaxed (Dobrin, 1990). These techniques work when sentences can be nearly parsed or a parse can be achieved after rule relaxation. If there are a number of errors in a sentence, however, the parser may be unable to identify some or all of the constituents, and consequently unable to provide any insight as to how the sentence might be corrected. One solution is to provide an "error grammar" that lists patterns for specific errors that users are likely to make (Sanders, 1991). When a parse fails, and the errors cannot be diagnosed by the parser, the error grammar can search the sentence. Of course, if the error patterns in the sentence are not listed in the error grammar, the program will still be unable to assist the user in diagnosis.

The final consideration in instructional or diagnostic applications is the type of message provided by a program when an error is detected. As Sanders and Sanders state, "even more significant than the issue of locating and identifying errors is the question of what kind of communication--if any--is actually helpful to language learners during parsing" (p.

18).

Programs that hope to teach users how to find and correct surface errors should model correction techniques used by teachers that have been shown to be the most effective (see Chapin, 1988).

OPERATION OF STYLE ANALYSIS AND GRAMMAR CHECKING PROGRAMS

Style Analysis

Originally, text critiquing programs were designed to operate much like spelling checkers, relying on pattern matching to locate questionable words or phrases in a text. These simple checkers might search for "wordy phrases (*join together, time period*), overused words (*really, definitely*), incorrect words or phrases (*would of, could of*), gender-specific words (*mailman, policeman*), cliches, slang, and the like" (Smith, 1989, p. 69). It was assumed that highlighted constructions were, according to the current standards of style and diction, unconventional, non-standard, or not preferred. Another technique was to flag every occurrence of certain constructions whether their use was appropriate or not, such as "easily confused words, abstract words, passive voice, transitional words and phrases, coordinators, subordinators, nouns, nominalizations, "be" verbs, infinitives, prepositions, acronyms, and so on" (p. 70). In addition to being highlighted, many of these structures were counted and compared to threshold standards

for what was considered to be good writing. Other features of a text that were also often counted included:

> total words in the text, average word length, average length of content words, total words per sentence, total number of sentences, total words in the longest sentence, total words in the shortest sentence, average sentence length, readability grades, number of quotation marks, number of exclamation points, and on and on. (Smith, 1989, p. 70)

This lengthy list illustrates how these analyzers relied heavily on the basic ability of a computer to match patterns and to perform simple counting operations.

Listed as the oldest style analyzing systems, Bell Laboratories' Writers' Workbench performed many of the functions listed above. Developed as an aid for business writing and later adapted for academic use, it actually was a conglomeration of several programs. The first of these, ORGANIZATION, listed the first and last sentence of each paragraph. Another, DEVELOPMENT, attempted to identify underdeveloped paragraphs based on word and sentence count. SUGGEST looked for errors in diction, using pattern matching techniques, and made suggestions for changes. VAGUENESS searched for overused and vague words, while ABSTRACT alerted students when the percentage of abstract words was getting too high. A program called CHECK highlighted commonly confused homophones. PUNCTUATION mainly identified misplaced punctuation marks, and SPELL, as the name suggests, identified spelling errors. PROSE, considered to be one of the most useful programs, compared students' papers with acceptable

stylistic standards, while STYLE summarized information from the overall word and sentence counts. A mainframe system was needed to operate the programs. Whole texts were entered for analysis, which took several minutes, and students received marked-up printouts, which they took home and consulted when making revisions in their papers (Kiefer & Smith, 1983, 1984; Kiefer, Reid, & Smith, 1989; Smith, 1989).

Early commercial text analysis programs, such as Homer, HBJ Writer, Right Writer, and Grammatik, performed some or most of the same functions as Writer's Workbench. While the programs were more compact and efficient, they used the same pattern matching and counting techniques (Kiefer, Reid, & Smith, 1989). Essentially, the only improvement that has been made in pattern matching is the introduction of "wild cards", which are symbols that substitute for the parts of a pattern that are variable (e.g., "V -ed" could represent all regular verbs in the past participle form). This technique, used by Hull and Smith (1985, 1986), greatly reduced the number of patterns that had to be stored by the program. Hull and Smith concluded, however, that it would be an endless task to try to create enough patterns to represent a majority of possible errors. This led them to propose the use of a parsing system in an error checking program.

Commercial Grammar Checkers

In a previous section (Natural Language Systems), components and procedures that could be incorporated into

grammar checking programs were discussed. Ideally, these would include a full natural language parser, flexible processing strategies, strategies for the resolution of parsing errors, an error grammar tailored to the needs of the users, and clear error messages designed to promote learning of editing skills. It is obvious that there are a variety of options available to the program designer; whether or not these options are present in commercial programs is determined by more practical considerations, such as the capacity of microcomputers to support programs and the price that consumers are willing to pay for them.

Unfortunately, manufacturers are reluctant to reveal the details of the underlying systems that drive the commercial programs. There has been some discussion in the literature, however, and some underlying mechanisms can be inferred from a program's performance. Dobrin (1990) found that most programs used what he described as "minimal parsing strategies" (p. 69). In such procedures, the programs first refer to the lexicon to identify the parts of speech for each word. Such programs begin in a typical fashion, matching the words in a sentence with those in its lexicon to identify the parts of speech for each word. The next step is to use pattern matching techniques to find "sequences of parts of speech that correlate well with grammatical errors" (p. 68). Errors are detected by matching a particular word or a specified sequence, or through minimal parsing:

> In the minimal case, use of a specified word (e.g., "ain't") is considered ungrammatical and each occurrence of the text string, a-i-n-'-t, in the text is flagged. In others, the occurrence of paired text strings triggers a flag. In Grammatik III, for instance, the occurrence of the word "more" followed by a word ending with the letters "er" causes the program to flag the pair as a double comparative.
>
> Sometimes, some minimal parsing must be done, but a complete parse is not necessary. In a sentence like,
>
> The Greek Islands form a barrier to progress through the Aegean sea.
>
> a minimal parse would find the first free noun ("Islands") and the verb ("form") and determine that the subject and verb agree. It would ignore the prepositional phrase and the object of the verb. Sometimes this works; in many situations it doesn't. (Dobrin, 1990, p. 70)

Another parsing strategy is described in the RightWriter User's Manual (1992). Here, the first step is to divide the sentence into its major clauses, dependent and independent. The next step is to find the subject and predicate of each clause, then to identify the individual words by their part of speech. If desired, the user can view a tree diagram of the structures that are identified. Finally, the program searches a file of error patterns to see if any match those in the sentence being analyzed. Developers of RightWriter openly admit that its parser is not a full natural language system. They do, however, claim to provide "a very good grammar and style checker that analyzes the syntax, or structure, of sentences" (p. B-2). The Grammatik Mac User's Guide is somewhat less direct in the description of analysis procedures. While it claims that parsing is used to analyze "a sentence's parts, structure, and context to determine if it

conforms to the rules of standard English grammar," the only procedures explicitly stated are the assignment of parts of speech and the use of error matching previously described for minimal parsers (1990, p. 6).

According to Dobrin (1990), minimal parsers will have various problems that can be attributed to their parsing strategies. For instance, they will have a tendency to mistake an introductory phrase for the main clause of a sentence, especially if it's a participial or absolute phrase. They will also have problems when series of nouns, such as "Air Force Academy," are the objects of prepositions or the subjects of sentences, with inserted phrases like "we believe", and with participle adjectives that could also be labeled as nouns or verbs, such as "cut." Finally, Dobrin contends that minimal parsers will have difficulty with "any sentence with numerous clauses and phrases" (p. 70).

The only commercial grammar checker that Dobrin lists as having a full natural language system is Houghton-Mifflin's CorrectText (also marketed as Correct Grammar). According to Dobrin, the parsing system is superior to IBM's Critique and to the systems described by Sanders and Sanders (1989). The technical advantages of Correct Grammar are described in the user's manual:

> The major technological advance embodied in CorrectText GCS [Grammar Correction System] is the ability to analyze the structure of English sentences and to identify those places in improperly formed sentences where errors of various types may have occurred. (Correct Grammar for Dos, 1992, p.84)

The manual criticizes simple pattern matching procedures for their lack of syntactic analysis. It uses the example of a rule that identifies the pattern "more" followed by a word ending in "er," showing how this would incorrectly identify as errors structures such as "more butter," and miss redundant comparisons such as "more worse."

The Correct Grammar user's manual describes four major components that assist in the detection and diagnosis of errors: *Sentence Expert, Dictionary Expert, Parsing Expert,* and *Parse Analyzing Expert*. The first of these, *Sentence Expert* is responsible for the identification of words, punctuation, and ends of each sentence (non-sentences, such as titles, are checked for spelling only). The second component, *Dictionary Expert*, is a lexicon of 135,000 words that lists grammatical functions and features. It also has the capacity for assigning parts of speech to words that are not listed, probably through using knowledge related to the use of affixes. *Dictionary Expert* also checks for typographical, phonetic, grammatical spelling errors (e.g., using regular patterns for irregular verbs), and contraction errors.

According to the manual, the next component, *Parsing Expert,* "uses efficient and very accurate techniques for determining the specific grammatical function of each word in the sentence" (p. 88). This information is then used to create a parse tree that completely defines the constituent structure

of the sentence. The last component, *Parse Analyzing Expert*, tries, in conjunction with an error grammar, to identify and diagnose problems in the sentence structure. With such sophisticated technology, one would expect a highly accurate program, but this is not necessarily the case. Like many other parsers, Correct Grammar does not function well when there are multiple errors in a sentence (Correct Grammar for DOS, 1992). Also, a large portion of an error checker's strength depends not only on parsing rules but also on the rules listed in its error grammar (Sanders 1991). If a particular error cannot be attributed to the violation of a parsing error and is not described in an error grammar, the program will not be able to assist the user in identification or diagnosis.

Implications for non-native writers. Programs that use minimal parsing strategies are likely to be the least accurate in identifying and diagnosing the kinds of errors made by non-native writers. This is because the programs do not analyze structures unless they have a high correlation with error patterns, and these correlations are based on errors that are typically made by native writers. Types of errors listed for pattern matching are also based on the errors of native writers, though one program, Right Writer (1990), claims to have added many rules that reflect common errors made by ESL students. Programs such as CorrecText, which employ sophisticated parsing techniques, can be expected to perform

better, but may have reduced effectiveness when analyzing ESL students' writing because sentences are likely to contain multiple errors. Furthermore, unless targeted for second language writers, the error grammar will probably not include many common second language errors. Finally, since syntactic parsers contain no semantic component, they are likely to miss the most frequent type of error made by ESL writers; that is errors related to vocabulary and idiom (Dalgish, 1991).

THE USE OF STYLE ANALYZERS AND GRAMMAR CHECKERS IN WRITING INSTRUCTION

The use of computerized text analysis has become increasingly widespread in composition courses for both native and non-native writers (Collins, 1989). The reported benefits for students using grammar checking programs are summarized by Pennington (1991). These include increased knowledge of writing conventions, improved editing and writing skills, and greater independence from teachers.

When Writer's Workbench was introduced in mainstream freshman composition classes at the University of Colorado in 1981, the response of both students and teachers was generally positive (Kiefer & Smith, 1983, 1984). When surveyed, the majority of students indicated that they enjoyed using the programs(76%), the computer was easy to learn(86%), and they believed they were learning more about style and diction because of the computer(63%). In addition to the affective benefits, several measurable improvements were attributed to

use of the programs. Not only was it claimed that the number of errors in final drafts of essays was reduced significantly, but also that students using the programs learned editing skills faster than students in a control group. Furthermore, students in the experimental group reportedly made more revisions in organization and content than other students. The majority of teachers were also favorably inclined towards the programs, indicating that the comments made by the programs were similar to their own, and that they were able to spend more time on problems in organization and content rather than on editing for surface errors (Kiefer & Smith, 1983).

Criticism of Commercial Programs

Pennington (1991, 1992) offers several arguments that dispute many of the benefits attributed to use of text analysis programs, particularly those that are commercially produced. She criticizes five aspects of the programs that, in her opinion, diminish their suitability for use in writing instruction, particularly with inexperienced or non-native writers. These are summarized as follows:

1. The feedback is not generalizable.
2. The software does not train the editing process.
3. There is no direct link to writing quality.
4. The educational rationale is unclear.
5. The analysis is highly inaccurate. (1991, p. 424)

Feedback. Addressing the first issue, Pennington divides the type of feedback that the programs offer into three categories. These include identification and diagnosis of surface-level errors, selected prescriptive standards (e.g.,

overuse of "be" verbs, passive voice, or wordy expressions), and statistical characteristics of a piece of writing. Figure 3 shows the typical presentation of statistical information, including a variety of readability indexes, word count, and average length of sentences.

```
readability grades
(Kincaid) 18.5 (auto) 19.6 (Coleman-Liau) 14.6
(Flesch) 17.0  (19.2)

sentence info:
no. sent 6 no. wds 191
av sent leng 31.8 av word leng 5.32
no. questions 0 no. imperatives 0
no. content wds 101 52.9% av leng 7.49
short sent (<27) 33% (2) long sent (> 42) 17% (1)
longest sent 47 wds at sent 6; shortest sent 17
wds at sent 5
```

Figure 3. Statistical Feedback from Writer's Workbench Style program (Reproduced from Smye, 1987, p. 2).

The feedback is not generalizable, according to Pennington, because it separates form from content; therefore, students cannot learn the relationship between error and communication, nor between style, meaning, and focus. As can be observed in Figure 3, the feedback may verge on being cryptic, and students are often provided with little or no advice about how to apply the information they receive to improve their own writing (Smye, 1987). While the standards reflected in the feedback messages are said to be based on psychological and linguistic research (Frase, et. al., 1985), they have been

criticized for being arbitrary and meaningless (Thiesmeyer, 1989), and for adhering to prescriptive rules rather than actual usage (Dobrin, 1990).

In contrast to these arguments, Sommers (1982) considered the editorial feedback offered by Writer's Workbench to be more objective and consistent than that of writing teachers:

> The sharp contrast between the teachers' comments and those of the computer highlighted how arbitrary and idiosyncratic most of our teachers' comments are. Besides, the calm reasonable language of the computer provided quite a contrast to the hostility and mean-spiritedness of the teachers' comments. (p. 149)

Editing Skills. Pennington's second argument is that students are not likely to improve editing or writing skills through the use of commercial programs. This is because the programs tend to offer direct corrections based on prescriptive standards, rather than guiding the editing process and helping students to learn editing procedures. Also, while students may depend on their teachers less for surface-level corrections, they tend to develop a dependence on the programs (Pennington & Brock, 1992). This argument is contradicted, however, by Kiefer and Smith's finding that students who used Writer's Workbench showed significantly more improvement (for revisions related to simplicity, directness, and clarity, but not mechanics) on an editing post-test than did students in a control group. Reid (1986) conducted a similar study with ESL students and found that their editing skills also improved significantly compared with

students who didn't use the computer.

Writing quality. The argument that there is no direct link between use of a text analysis program and writing quality is supported by studies done by Brock (1988) and Liou (1993). Although Kiefer and Smith claimed that students engaged in more holistic revisions as a result of computer use, Brock argued that the improvement might equally be attributed to instruction from the teacher and other activities in the class. In Kiefer and Smith's study, revision was done in conjunction with teacher conferences, and no distinction was made to differentiate between revisions that were prompted by the computer and those prompted by the teacher. Brock (1988) initiated a study in which two ESL students used IBM's Critique to assist them with revisions, but received no input from a teacher. Another pair of students received holistic tutoring related to content and organization. He found that subjects using the grammar checking program made only surface revisions, but that subjects who received process-oriented tutoring increased the length of their essays by 200-400 words. Liou (1993) reports that while error rate was reduced in final drafts of students using Complete Writer's Toolkit, overall essay scores were virtually the same as for students in the control group, who did not use grammar checkers and had more surface errors in their final drafts.

Educational Rationale. Pennington (1992) formulates an

educational correspondence rule that states that the features of an application must model the features of the processes that are required for performance of the task to be learned. The features of the application must also match the learners' needs and characteristics in order for learning to take place. Pennington argues that commercial grammar checkers do not meet the criteria of this rule when used by non-proficient writers, who are "students who might be classified as basic writers, novice writers, non-standard dialect speakers, or ESL students" (424). It is most important for these students to expand their knowledge of both subject matter and the strategies for conveying this knowledge through written language; surface errors are of secondary concern. According to Sirc (1989), rather than helping students to develop writing strategies, grammar checkers represent a return to the product-centered approach, in which a paper that has been edited for surface errors and stylistic concerns may be equated with one that is fully developed.

Accuracy of Analysis. Pennington's last criticism, that the text analysis performed by commercial programs is highly inaccurate, is supported by various evaluative studies. Collins (1989) found only 6% or less agreement between the programs' analyses of student errors, excluding spelling errors, and those of experienced writing teachers (tests were of Milliken Writing Workshop, Sensible Grammar, and Writer's Helper). The programs also marked a large number of

structures that teachers did not consider errors. Collins concluded that "the programs clearly do not show a comfortable fit with the realities of student writing..." (p. 34).

Brock (1991) compared the revisions suggested by three programs (RightWriter, Grammatik IV, and Correct Grammar) in ten randomly selected ESL compositions with the error analysis of three experienced ESL teachers. Out of 166 errors identified by the teachers (excluding spelling), RightWriter found only four, Grammatik IV only 14, and Correct Grammar, which has the most sophisticated parsing system, identified only 19 errors. Brock also selected 92 sentences from the essays that represented a broad selection of error types including verb errors following modals, verb-form errors, preposition errors, errors in agreement, sentence fragments, run-on sentences, tense errors and shifts, errors in article use and deletion, and errors in using adjectives and adverbs. Of the 92 sentences, RightWriter analyzed only two correctly, Grammatik IV six, and Correct Grammar only 12. Such dismal results prompted Brock to caution that "ESL writers may not know when the program is wrong and when it is correct," and that "at a minimum, ESL writers need substantial guidance in using these programs" (p. 118).

In other research, Complete Writer's Toolkit, using the same system as Correct Grammar, correctly identified 38% of the errors in students' writing (Liou, 1993). This resulted in only a 20% reduction of errors in subsequent drafts of

papers, however, because students sometimes ignored the program's advice or created new errors in the editing process.

Implications

While none of those who criticize grammar checking programs have advocated that writing teachers abandon them completely, it has been suggested that they should play only a limited role in the writing process (Pennington, 1992). Since commercial grammar checkers focus on surface structures, it has been recommended that they be introduced late in the process, after other types of revisions have been made, and that teachers be available to help students discriminate between erroneous messages and legitimate ones.

To gain control over the types of feedback provided by the programs, and to improve their accuracy, several researchers have focused on modifications that can be made to the commercial programs. Thiesmeyer (1984) made significant revisions to Grammatik III, nearly doubling its error dictionary and modifying several other aspects of the program. While these modifications required substantial programming knowledge, most current programs now incorporate modification utilities. One of the easiest ways to modify a program is to simply turn off (temporarily or permanently) rules that are inappropriate, inaccurate, or insignificant. Other types of modifications include adding new entries for pattern matching of specific words or phrases, or supplementing the error grammar with more generalized patterns through the use of

"wild card" symbols or labels for parts of speech or sentence constituents. By using these utilities, writing teachers can improve the program's ability to notice the types of errors made by their students. These utilities also allow teachers to design their own error messages and tutorial information for the rules that they have written or modified. At present, rule-designing features and other modification techniques represent the greatest potential for making commercial grammar checking programs more suitable for use with ESL writing students (Brock, 1990; Garton, 1993).

SUMMARY

In this chapter an overview was provided of trends in second language instruction regarding error correction and process writing, in order to form the basis of a rationale for using grammar checking programs in ESL writing instruction. Based on current views, it can be argued that such programs may be suitable for checking surface errors in the final stages of a revision process. Research in computational linguistics related to sentence analysis and error identification was also reviewed so that the operation of commercial grammar checking programs could be investigated and evaluated. Because of practical considerations, most programs incorporate only some of the techniques that are available, and are therefore limited in the scope and accuracy of their analysis. This chapter also discussed several criticisms of

commercial grammar checking programs as well as modification capabilities that may improve their suitability for use with ESL writing students.

CHAPTER III

METHODOLOGY

Though commercial grammar and style checking programs are becoming more common in writing instruction, their suitability for non-proficient writers, such as ESL students, has been brought into question because of low accuracy rates, inappropriate feedback, and a focus on product rather than process (Pennington, 1992). Each of these concerns has received a degree of attention from researchers. The low accuracy of various programs when analyzing the errors of ESL writers has been demonstrated by Collins (1989), Brock (1991), Liou (1991, 1993), and others. Recently, the attention of researchers has been directed to features of programs that permit users to make modifications, perhaps making them more effective as editing tools for ESL writers or instructional aids for teachers. Some programs allow selective editing through turning off rules, and others allow users to write their own rules and tutorial messages. These capabilities have been researched for Grammatik IV and Grammatik V by Brock (1990) and Garton (1993), respectively. However, while studies have been done of common error patterns and program accuracy for specific language groups, none have attempted to evaluate accuracy for the range of errors that the grammar checkers

claim to recognize in relationship to errors that are typical of ESL writers. Using a body of sentences written to cover a broad base of error types, this study attempts such an evaluation. This, along with an evaluation of program performance in the analysis of an actual student essay, will help to assess the programs' inherent accuracy as well as modification needs.

GRAMMAR CHECKING PROGRAMS

The programs evaluated in this study are Grammatik V (Reference Software International, 1992), Correct Grammar (Wordstar International, 1992), and Right Writer (Que Software, 1992). The version of Grammatik V that was evaluated is a built in component of Word Perfect 6.0 for Windows (Word Perfect Corporation, 1992-1994), which requires that the user order an additional program disk in order to install the rule-writing component. Therefore, the rule-writing component of Grammatik IV, which uses the same techniques, was examined as an alternate. The grammar checker for Microsoft Word 6.0 (Microsoft Corporation, 1983-1993) is a streamlined version of CorrecText and uses the same technology as Correct Grammar, which is a stand-alone version of the program. Though the MS Word program was evaluated separately for accuracy, its performance was found to be identical to that of Correct Grammar. The programs differ, however, in the type of feedback provided and in the fact that

the MS Word version has no rule-writing component.

Selection of Programs

Availability was a practical factor in deciding which programs to evaluate for this study. Some programs, such as Power Edit and Sensible Grammar, have been discontinued. Although a copy was made available for this study, the manufacture of Right Writer says it may be discontinued as well. On the other hand, Grammatik has become the most commercially successful of the programs (Rabinovitz, 1991), and is now a standard feature of Word Perfect. Correct Grammar was sought for evaluation because its technology is considered to be the most sophisticated in terms of computational linguistics and may be found in programs marketed under different names, including Correct Text and Complete Writer's Toolkit. Both Grammatik and Correct Grammar were also desirable because of their rule-writing utilities, which allow users to add new error patterns to a "rule dictionary", thereby increasing the program's effectiveness.

INSTRUMENTS

Two instruments were used to evaluate and compare the accuracy of the grammar checking programs, a collection of test sentences and an essay written by an ESL student. The first instrument was a body of sentences written specifically to represent both the kinds of errors that the grammar checkers claim to recognize and errors that are typical of ESL

writers. Each of the grammar checking programs provides a list of error types that it reportedly checks for. In addition to this, the "Help" menus or tutorials provided more examples of the kinds of errors the programs are supposed to check. Though the error categories were quite similar for each program, Grammatik V provided the most specific list of categories; therefore, the body of sentences containing errors was organized along the same lines. In addition to the examples of errors provided by the programs, two ESL grammar texts (Azar, 1989, Aronson, 1984) were referred to for typical error patterns.

For each error pattern selected, at least one sentence including one instance of the pattern was written. If the first sentence consisted of a single clause, a second sentence was written, containing two clauses and one instance of the error. This was done to test a reported weakness in grammar checkers when examining complex or compound sentences (Dobrin, 1990). Whenever possible, a third sentence was written, with at least two clauses and two instances of the same error pattern. This was done to test the programs' ability to locate errors at different locations in a sentence. No sentences were written, however, with more than two errors or with errors of differing types. As noted in the Correct Grammar (1992) user's manual, the presence of several errors in a sentence will reduce a program's accuracy, and one goal for this portion of the study was to create conditions for the

programs to be as accurate as possible. To further this effort, sentences were avoided that were erroneous due to semantic rather than syntactic considerations, except for patterns that were specifically listed in the programs as being ones that were checked for.

In all, a total of 646 sentences were written for 42 error types. Table I lists each of the error types and the number of sentences included in the evaluation. The categories of Archaic Usage, Pejorative Terms, Cliches, and Ellipsis were not included in the evaluation because of questions as to whether the sentences written for them adequately reflected the problems the programs were intended to recognize. Passive Voice (marking of passive structures) was not included because of differing standards between programs; for example, Correct Grammar tags the structure only when it represents the main verb in a clause. The category, Split Infinitive was not included because the problem had already been dealt with in the Infinitive category. The category labeled Run-on Sentence was also eliminated because Grammatik 5 defines a run-on sentence as one containing too many conjunctions, rather than two sentences that are improperly connected. Actual run-on sentences were dealt with in the category of Comma Splice/Fused Sentences.

Finally, the correct version of each sentence was also written to check for falsely marked sentences and for patterns that are marked every time they occur, whether correct or

incorrect. These are not included in the total number, however, because correct sentences often had multiple incorrect versions. For the complete body of sentences and a list of the error patterns included, refer to Appendix A

TABLE I

ERROR CATEGORIES FOR TEST SENTENCES

A. ADJECTIVES/ ADVERBS (13)	T. INFINITIVE (21)
B. ARCHAIC USAGE (0)	U. NOUN PHRASE (21)
C. ARTICLES (68)	V. NUMBER STYLE (11)
D. CAPITALIZATION (14)	X. PASSIVE VOICE (0)
E. CLICHES (0)	Y. POSSESSIVE FORM (8)
F. COLLOQUIALISMS (2)	Z. PREPOSITION (7) (idiomatic uses)
G. COMMA SPLICE, FUSED SENTENCE (4)	AA. PRONOUN CASE (8)
H. COMMONLY CONFUSED WORDS (6)	BB. PRONOUN NUMBER AGREEMENT (18)
I. COMPARATIVE/ SUPERLATIVE (44)	CC. PUNCTUATION (19)
J. CONJUNCTIONS (25)	DD. REDUNDANT USAGE (7)
K. DOUBLED WORDS (1)	EE. QUOTATION MARKS (11)
L. DOUBLE NEGATIVES (5)	FF. RELATIVE PRONOUNS (6)
M. ELLIPSIS [...] (0)	GG. RUN-ON SENTENCE (0)
N. ENDING SENTENCES W/ PREPOSITIONS (2)	HH. SECOND PERS. PRO. (0)
O. END OF SENTENCE PUNCTUATION (3)	II. SEQUENCE OF TENSES IN CONDITIONALS
P. FORMALISMS (18)	JJ. SIMILAR WORDS (17)
Q. HOMONYMS (16)	KK. SPLIT INFINITIVE (0)
R. INCOMPLETE SENTENCE (3)	LL. SPLIT WORDS (10)
S. INCORRECT VERB FORM	MM. SUBJECT-VERB AGREEMENT (135)
	NN. SUBORDINATION (10)
	OO. TENSE SHIFT (25)
	PP. VERB FORMS (64)

The second instrument was the third draft of an essay (1251 words) written by an advanced ESL student whose native language was Mandarin Chinese (see Appendix C). Table II lists the types of errors identified in the essay and their

TABLE II

ERROR TYPES AND FREQUENCY FOR SAMPLE ESSAY ONE

ERROR TYPE	FREQUENCY	% OF TOTAL
PUNCTUATION	71	35
WORD CHOICE	19	9
PREPOSITION	14	7
SING/PLURAL	15	7
SV AGREEMENT	12	6
CONJUNCTION	11	5
ARTICLES	8	4
WORD FORM	7	3
REDUNDANCY	6	3
GLOBAL ERROR	5	2
WRONG WORD	5	2
RELATIVE PRO	4	2
SENT. BOUND.	3	1.5
VERB FORM	3	1.5
PRO. AGREE.	3	1.5
PARALLEL STR.	3	1.5
CAPITALIZATION	3	1.5
QUANT. C/NC	2	1
VERB TENSE	2	1
POSSESSIVE	2	1
WORD ORDER	1	.5
SENT. CONNECT.	1	.5
ADVERB PHR.	1	.5
NOUN CLAUSE	1	.5
VERB MISSING	1	.5
NP MISSING	1	.5
NOUN MISSING	1	.5
NUMERALS	1	.5

frequency. In order to verify the errors and their classification, an experienced ESL teacher was consulted. The third draft of the paper was selected because, as discussed in a previous section, the use of grammar checkers is likely to be most effective in the final stages of the revision process since they focus on surface errors and are more effective when there are fewer errors present. The sample essay was written after peer review of content and organization as well as a conference with the teacher. Although many errors had been resolved in previous drafts, 201 errors remained. With a total of 73 sentences, the average number of errors per sentence was 2.75.

PROCEDURES

Evaluation of Accuracy

The body of sample sentences was stored on a disk in Word Perfect 5.1 and ASCII formats. These were respectively converted to Word Perfect 6.0 for Windows and Microsoft Word 6.0 for the evaluation of Grammatik V and Correct Text. Correct Grammar and Right Writer had been previously installed onto separate Word Perfect 5.1 programs.

In each case, the grammar checkers were run in the interactive mode, wherein errors are highlighted, messages provided, and the user must respond to the error either by editing or skipping it. Each error in every sentence was scored according to the following:

O = Correctly identified and diagnosed errors

X = The error was highlighted but incorrectly diagnosed.

S = The false highlighting of a structure could be attributed to an actual error in another part of a sentence.

M = An error was missed completely.

F = A correct structure was falsely tagged in an error-free sentence. Patterns that were highlighted every time they occurred (e.g., affect/effect) were not counted unless they were the focus of attention.

Each type of result was totaled for the whole body of sentences, as well as for each particular error type. Feedback or error messages were also classified according to type, whether they represented direct corrections (DC), pointing out of errors (PO), or more implicit corrections (IC). For example, with the sentence, "I saw a children in the park," direct correction might instruct the student to change 'a' to 'some.' Pointing out of errors might be a statement indicating that the word 'a' does not agree with 'children.' Implicit correction might ask a question such as, "How many children did you see in the park?"

The sample essay written by an ESL student was checked and scored in a similar manner. Error messages were also classified and counted by type as described previously.

ANALYSIS OF DATA

For the body of sample sentences, results were divided into five categories (O,X,S,M,F), and the total number for each category recorded. These figures were converted into percentages to compare the overall accuracy rate for each program. Totals were also kept for each error type and compared between programs. Percentages for the three types of error messages (DC, PO, IC) were also calculated and comparisons made between programs.

A similar analysis was done for the results of the sample student essay. These results were compared with those of the analysis of test sentences. The information from the descriptive analysis and the evaluation of accuracy was used to determine which programs, if any, might be more suitable for use in ESL writing instruction.

CHAPTER IV

RESULTS OF THE STUDY

INTRODUCTION

This chapter is divided into three major sections that respectively report the results of the descriptive analysis of program features, the evaluation of program accuracy when checking a body of test sentences, and the evaluation of program accuracy when checking a sample student essay. The first section includes a description of the basic operation of the programs, the types of grammatical and stylistic problems each claims to recognize, and the diagnostic and tutorial advice that is available to the user. Modification capabilities and procedures are also discussed. In the second and third sections, tables and graphs illustrating the frequency of accurate error identification are provided.

PART 1: DESCRIPTIVE ANALYSIS OF THE PROGRAMS

GRAMMATIK 5 (Word Perfect Corporation, 1994)

Grammatik 5 is available as a stand-alone program for both DOS and Windows. The version of the program used in this study, however, is a standard feature of Word Perfect 6.0 for Windows (Word Perfect Corporation, 1992-1994).

Operation of the Program. The Grammatik 5 User's Guide (1992) lists the steps necessary for basic operation of the program:

> 1. Open or create a Word Perfect Document.
> 2. Choose Grammatik from the Tools Menu.
> 3. Grammatik loads and begins interactive checking.
> 4. When your proofreading session is finished, you receive the following message:
> 'Checking complete. Save changes to this document?' (p. 20)

It should be noted that, in Step 1, it is possible to open documents that are in earlier versions of Word Perfect (e.g., 5.1 or 5.2) or that have been saved in generic ASCII text format. In Step 2, it is also possible to open Grammatik by clicking on a "button" labeled with a large "G" along the top of the word processing window.

In Step 3, the Grammatik window is superimposed over the document that is being checked (see Appendix E for a monochrome facsimile of the window). The term "interactive checking" means that each time the program identifies an error, the user must respond in some way. Grammatik checks spelling first, then does string matching for exact matches with problem words or phrases. This is followed by rule-based identification of structural errors. Finally, punctuation and other mechanical problems are identified. In this version of the program, errors are highlighted one at a time in the body of the actual text. For example, in the test sentence, "School lunches contain too many fat thus our children's health is at risk," the phrase "many fat" was highlighted (the

sentence boundary error was missed). The "rule class" or error category, (in this case, Noun Phrase) is indicated near the top of the Grammatik window. An advice message, which provides the program's diagnosis of the error, appears below this. The message for the above example was "After many you need a plural noun not the singular noun fat." Below the advice message, another box provides suggested corrections if they are available. For this error, the word "fats" appeared. Frequently, two or more different suggestions are offered from which the user must choose. When a correction is suggested by the program, the user has the option of hitting a "Replace" button and the new pattern is inserted into the text. After a correction is made, the program returns to the beginning of the sentence for reanalysis. If no suggested correction is provided, or if the user prefers, he or she may return to the main body of the text to make revisions. The Grammatik window remains on the screen, but the user must click on the "Resume" button after making corrections. If the user does not wish to make any revisions, he or she may click the "Next Sentence" button to bypass the remainder of the sentence, or the "Skip" button, to check for additional errors in the same sentence. After the entire text is checked, or the user clicks the "Close" button, he or she is given the option of saving the revised document under the same name as the original or under a new name. In either case, a copy of the original text remains on file. A third option allows users

to discard the revised version while retaining the original document. Readability statistics are offered at the end of a checking session, providing users with word and sentence counts, the average number of words per sentence, and a "Flesch Reading Ease" score (described in Chapter II).

Error categories. The types of problems that Grammatik 5 claims to identify are categorized by 58 different "Rule Classes" which are grouped as problems in style, grammar, or mechanics (see Table III).

TABLE III

GRAMMATIK 5 RULE CLASSES

STYLE	GRAMMAR	MECHANICS
Abbreviation	Adjective	Capitalization
Archaic	Adverb	Doubled Word or Punctuation
Cliche	Article	Ellipsis
Colloquial	Comma Splice or Fused Sent.	End of Sentence Punctuation
Commonly Confused	Comparative/ Superlative	Number Style
End of Sent. Prep.	Conjunction	Punctuation
Foreign	Double Negative	Question Mark
Formalisms	Homonym	Quotation Marks
Gender Specific	Incomplete Sent.	Similar Words
Jargon	Incorrect Verb Form	Spelling
Long Sentence	Infinitive	Split Words
Overstated	Noun Phrase	Unbalanced (), {}, or "
Paragraph Problem	Object of Verb	Tense Shift
Passive Voice	Possessive Form	Subordination
Pejorative	Preposition	
Questionable Usage	Pronoun Number Agreement	
Redundant	Relative Pronoun	
Second-Person Address	Run-on Sentence	
Sentence Variety	Sequence of Tenses	
Split Infinitive	Subj.-Verb Agreement	
Trademark		
Vague Adverb		
Wordy		

Most of the types of errors included in these rule classes were included in the sample body of sentences described in Chapter III. Refer to that document (Appendix A) for a more detailed explanation of particular error types.

Grammatik 5 uses string matching techniques and statistical information to check for stylistic concerns. Pattern matching is also used for punctuation errors and for some grammatical problems. Rule-based analysis of sentence structure is also used to identify grammatical errors.

Diagnostic and tutorial information. In addition to the diagnostic messages and suggestions listed previously, users can obtain more extensive explanations of grammatical problems by accessing the "Help" menu in the Grammatik window. The tutorial message is determined by the particular rule class that has been identified. For example, the "Noun Phrase" classification of the error identified for the phrase "many fat" is accompanied by the following tutorial:

> NOUN PHRASE
>
> Purpose
> A noun phrase consists of a noun and its modifiers acting as a subject, object, or complement. Most noun phrase errors are due to missing words, number disagreement, and scrambled word order. The following list highlights the major error types:
>
> Missing modifier before a noun.
> ['He let out dog.']
>
> Missing modifier in a compound noun phrase with nouns of differing number.
> ['Our softball team consists of eight boys and girl.']
>
> Number discrepancy.

['A family with five boy moved in next door.']

Scrambled word order.
['His time for the race sets a new record track.']

See Also
Article
Adjective
(Word Perfect Corporation, 1994)

The "Help" menu also allows the user to open a box in the display window that shows a sentence with each word identified by its part of speech. This box may be left open throughout the checking process if desired.

User Modifications. The design of Grammatik 5 permits the user to make several changes in the default settings of the program. The most basic of these is the selection of a writing style and formality level. Writing styles include General (the default setting), Business Letter, Memo, Report, Technical, Documentation, Proposal, Journalism, Advertising, and Fiction. Each style is associated with one of three formality levels: informal, standard, or formal. Changing a writing style or formality level activates certain rule categories while deactivating others. In addition to the predefined styles, users may create and save customized styles, for which they choose the error categories that are active.

Rule designing. Although the stand-alone version of Grammatik 5 includes a rule-designing component, the Word Perfect version requires the purchase of additional software. Consequently, the rule designing capabilities examined for

this study are from Grammatik Mac 2.0 (1990).

Grammatik's "Rule Dictionary" is essentially an "error grammar" as described by Sanders and Sanders (1989). According to the user's guide, it contains "many thousands of rules in its complete rule list" (Grammatik Mac User's Guide, 1990, p. 120). These range from exact words or phrases to be tagged as errors, to symbolic representation of structural patterns. Users can gain access to the dictionary through the "Rule Editor," which allows them to make an existing rule inactive or to completely delete it, or to add new rules of their own design.

Instructions for rule designing are contained in two chapters of the Grammatik Mac user's manual (pp. 115-162). Here is an example of a simple pattern matching rule:

> @#/ but \Use 'But' sparingly to start a sentence (p. 117).

The symbol "@" indicates that this is what the manual refers to as a "parsing" rule. The symbols "#/" mean that the pattern is to be tagged when it is in a sentence initial position. These symbols are followed by the lexical entry itself, in this case the word "but." Rules are limited to 16 tokens, which are described as any "word, symbol, or punctuation mark followed by a space" (p. 128). The advice message is written last, after the back slash (\), and is limited to 200 characters. While it is possible to rewrite existing rules, users are advised to save both versions of a rule by using the "New Rule" button. The new rule will

supersede the old one, which can be reactivated if desired.

More complex rules can be written using a set of symbols to represent operations and parts of speech (these are described in detail on pages 143-150 of the user's manual). For example a rule that tags the incorrect use of the object pronoun "me" would be written as follows:

```
and me @ ¦BGRTV\d1\Try 'I' if the 'and me' is part of a
compound subject.¦and I (p.157)
```

This rule can be deciphered as follows:

```
and me = initial words in pattern
@ = parsing rule
B = be verb
G = present participle
R = past participle
T = past tense
V = base verb form
\ \ = rule class
d = pronoun
1 = standard formality style
¦and I = replacement (suggested correction)
```

Essentially this rule results in flagging instances where the pattern "and me" occurs before any form of a verb and provides the user with an error message accompanied by a possible replacement.

An important restriction that applies to all rules is that the first or second tokens in a series must begin with a letter of the alphabet (a-z). This prevents the writing of rules that consist solely of part-of-speech symbols. Complete words need not be written in every case, however, as the use of a "wild card" symbol (*) can substitute for characters or words. For example, the expression "*ing" could be used for all words that end in "-ing," or "play*" could be used to

represent any form of the word "play."

Tutorial Information. New tutorials can be written to accompany any new rules written by the user, and existing information can be revised through use of the program's "Help Editor." There is no restriction on the length or content of tutorial messages. Instructions for using this utility are included in the user's manual on pages 107-113.

MICROSOFT WORD 6.0 (MICROSOFT CORPORATION, 1983-1993)

The grammar checking system used by this program is described in the copyright information as being "portions" of CorrecText GCS (1993) developed by Houghton Mifflin, which uses the same underlying system as Correct Grammar (1992) and Complete Writer's Toolkit (1990).

Operation of the Program. The operation and appearance of this grammar checker is very similar to Grammatik 5 in Word Perfect 6.0. The program is initialized in the same manner, and a dialogue box is superimposed over the document that is being checked (see Appendix E for a facsimile). Errors are highlighted one at a time, and sentences are reanalyzed whenever corrections are made. One slight difference is that the sentence being analyzed appears inside the grammar checking window, and users may make revisions without returning to the main text. They may return to the main text if they wish, however, but the grammar checking window disappears from the screen and must be reopened. Diagnostic messages appear in the same box with suggested corrections,

when such suggestions are available. If a correction is offered, the user may enter it into the text by clicking the "Change" button. As in Grammatik 5, users have the option to skip over a particular message by clicking the "Ignore" button or the "Next Sentence" button. A third option that is not found in the Word Perfect version of Grammatik 5, is to click the "Ignore Rule" button, which turns off a particular rule for the remainder of the session. At the end of the grammar checking session, users are given the option of saving or discarding the document and readability statistics are provided. In addition to the word and sentence counts, the percentage of passive voice constructions is also provided along with four different readability scores.

Error Categories. The error categories for the Microsoft Word 6.0 version of CorrecText are listed in Table IV. Although the descriptions are somewhat different, these can be seen to be similar in type and scope to those listed for Grammatik 5.

In addition to using pattern matching techniques for common stylistic problems and some grammar problems, CorrecText parses sentences and attempts to identify structural problems.

Diagnostic and Tutorial Information. Extended tutorial information is provided when users click the "Explain" button.

TABLE IV

ERROR CATEGORIES FOR CORRECTEXT

GRAMMAR AND USAGE

Agreement with "here or there"
Clause Errors: Run-ons, fragments, conjunctions, punctuation between clauses
Commonly Confused Words
Double Negatives
Format Errors: Abbreviations, sentence initial capitalization, punctuation of numerical expressions
Informal Usage
Jargon Words
Mass vs. Count: "a" vs. "an"
Nonstandard Expressions
Nonstandard Modifiers: Adjectives, adverbs, hyphenation
Noun Phrase Consistency
Pronoun Errors: case, relative pronouns
Punctuation Errors
Repetitive Expressions
Subject-Verb Agreement
Verbal Group Consistency: verb forms
Word Usage: Similar meaning

STYLE

Quoted Text	Archaic Expressions	Cliches
Contractions	Gender-Specific	Homonyms
Prepositions	Informal Expressions	Jargon
Spelling	Misused Words	Multiple Negation
Open vs. Closed Spelling	Overused Phrases	Possible Word Confusion
Stock Phrases	Redundant Expressions	Vague Quantifiers
Weak Modifiers	Ungrammatical	
	Wordy Expressions	

A portion of the tutorial information for the sentence, "I am lying on the book on the desk," is reproduced below:

> Rule: Word Usage
> Use 'lay' (lays, laying, laid)' when you mean 'to put something down' and 'lie' (lying, lain) when you mean 'to recline.'
>
> People often confuse 'lay' and 'lie' because they sound

> alike and have similar meanings. 'Lay' is a transitive verb; it requires a direct object which tells you what was laid. 'Lie' is an intransitive verb; it does not take a direct object and is often followed by prepositional phrases.

This information is followed by sample sentences, as in the Grammatik 5 tutorial.

User Modification. Users can choose from among three different settings that determine a set of rule classes to be activated. These are labeled "Strictly (All Rules)," "For Business Writing," and "For Casual Writing." In addition to these, users can turn individual rules on or off to create a customized set of rules. This version of the program has no capabilities for turning off individual rules, rule editing or writing, nor for revision or writing of tutorial information.

CORRECT GRAMMAR FOR DOS (WORDSTAR INTERNATIONAL, 1992)

This is a stand-alone program that employs the CorrecText Grammar Correction System. It can be installed onto a hard disk as a separate component or onto a word processing program. It is compatible with several word processing formats including Word Perfect, Microsoft Word, and several others, as well as the ASCII generic text format.

Operation of the program. The program can be loaded either from the system prompt by typing "CG" plus the file name for a given document, or directly from a word processing program by pressing the "Alt" and "G" keys simultaneously. When the program is loaded, a message window appears at the

top of the screen. A portion of the document appears in the center, and a list of correction options is at the bottom of the screen. These are labeled "Correct," "Skip," "Edit," "Tutorial," "Quiet," and "Mark." As in the Microsoft Windows version, users may replace errors with a suggested correction, make revisions in a sentence themselves, or skip to the next problem. The "Mark" feature, which identifies a problem for future reference, is not available in the MS Word version. An additional option that is available in this version is the "Mark Up" mode in which the entire document is scanned and marked with comments. Diagnostic comments are the same as in the MS Word version, but differ somewhat in the order of presentation. In the sentence, "I saw a children," Correct Grammar first suggests that the user "Consider child instead of children." If this suggestion is ignored, a subsequent message reads, "The word "a" does not agree with "children." In the case of the Microsoft Word version, both messages appear at the same time. At the end of a session, the user is allowed to save or discard the revised document and readability statistics are shown. In addition to providing a readability score, Correct Grammar also ranks the difficulty of the text according to one of six categories, ranging from "very easy" to "very difficult."

Error categories and tutorial information. The program is identical to the Microsoft Word version in the types of errors it claims to check for and in the extended tutorial

information provided to users.

User Modification. The program lists nine different style settings which vary in level of formality and the types of errors that are checked. These include Academic, Advertising, Basics, Business, Fiction, Informal, Legal, Reviewer, and Technical. Users may also customize a style setting, turning error categories on or off as in the other programs. It is only possible to turn off individual rules when the program is actually checking a document. Like some versions of Grammatik, Correct Grammar has a rule writing component. These can be designed to match exact words or phrases, or written more generally to match particular structural patterns. For example, a rule that tags the use of the slang word, "dweeb," is written as follows:

```
RULETYPE 3 = FORBIDDEN_WORDS
EM1 = 'This word is forbidden in company documents."
RULE \dweeb FORBIDDEN_WORDS 1
     EM1 = 'Consider dope instead.'
     EM2 = 'Everybody dislikes this word, and it's not in
           the dictionary anyway.' (Correct Grammar,
1992, p. 102)
```

In addition to the error messages provided in this example, it is also possible to include suggested corrections that users can insert by choosing the "Correct" option from the grammar checking menu.

A further example shows a more generalized rule that relies on part-of-speech labels:

```
RULE a \lot of {IS_ADJ} {IS_ADJ} {IS_ADJ}
[IS_SG_NOUN] ARTICLES 7
EM1 = "'a lot of' means much, many, or several."
EM2 = "This expression may only be used to modify
```

> a noncount noun or plural count noun. If the underlined noun is a count noun, consider making it plural."

This rule tags the use of the phrase "a lot of" when it occurs before a single noun. Note that this rule also allows for as many as three adjectives to precede the noun; the brackets indicate optional parts of speech. The back slash (\) before the word "lot" indicates that it is the "trigger" word. A major restriction of the rule writing component is that every new rule must contain at least one such word. Every time this word occurs in a document, the grammar checker will search for the error pattern. Although this component does not allow the use of a "wild card" symbol as Grammatik does, it does allow the user to classify parts of a pattern by larger structures, rather than by just the parts of speech associated with single words. Such constituents include noun phrases, prepositional phrases, and relative clauses, as well as subjects and predicates of a clause or sentence.

Unlike Grammatik, Correct Grammar does not permit the user to modify existing rules or tutorial information. User rules do take precedence over old rules, however. The procedures for writing rules are described in pages 95-124 of the user's manual.

RIGHT WRITER VERSION 6 FOR DOS (QUE SOFTWARE, 1992)

This program is also a stand-alone program that can be installed independently or attached to a word processing program. It is compatible with Word Perfect, Microsoft Word,

ASCII, and several other text formats. Like Correct Grammar, it can be initialized from the DOS prompt or from within a word processing program.

Operation of the Program. After Right Writer has been loaded, an error message window appears in the bottom of the screen, a list of response options in the center, and a portion of the document at the top. Unlike the other programs, Right Writer does not check errors one at a time, but numbers all of the errors present in a sentence, and lists advice messages in the message window. For example, the test sentence, "But1 according to Webb2, food which3 contain beta-carotene, vitamin c may push up people's immune system because of a maxim 'An apple a day, keep the doctors away'. 4 5," contains five numbers that are associated with the following error messages, which are provided under the category of "standard help":

1. Is there a better way to start this sentence?
2. Is Webb misspelled?
3. Consider rewording this with : food that
4. Is this sentence too complex to read easily?
5. Reverse the order of the punctuation.
   Replace with: ."

Users can respond to these messages in sequence by selecting "Next," "Replace," or "Ignore" from the correction menu. Right Writer does not reanalyze the sentence unless the user moves the cursor back to the beginning and presses "Next." The program also allows users to create a "marked up" copy that scans the entire document and inserts comments into the text. At the end of a session, users are given the option of

saving or discarding the revised text. Readability statistics are provided along with an extremely extensive stylistic report that is divided into a "Strength Index," a "Descriptive Index," and a "Jargon Index."

Error Categories. The types of errors or stylistic concerns that Right Writer attempts to address are listed in Table V.

TABLE V

ERROR CATEGORIES FOR RIGHT WRITER

Ambiguous Wording	Archaic Language	But at Start of Sent.
Capitalization	Cliches	Colloquialisms and
Comma Usage	Computer Terms Usage	Conjunction at Start Sentence
Contractions	Gender Specific	Hyphenation
Foreign	Legal Terms Usage	Long Paragraphs
Justify	Misleading	Missing Bracket
Long Sentences	Modified Absolutes	Negative Words and Sentences
Misused Articles	Offensive Language	Passive Voice
Noun-Verb Agree.	Overused Phrases	Possessive Usage
One Sentence Paragraph	Plural Usage	Questionable Comparative
Preposition at End of Sentence	Questionable Adv.	Questionable Plural
Questionable Participle Form	Questionable Noun	Questionable Superlative
Redundant Wording	Questionable Past Form	Reversed Punctuation
Run-on Sentences	Quotation Mark	Sentence Fragments
Simpler Wording	Repeated Words	Split Infinitives
Use Adverbial Form	Semicolon Usage	Use of I
	Spelling	Weak Wording
	Use of Be	Weak Sentence Starts
	User Flag	

Of the 54 error categories listed, 28 of them (roughly 50%) rely on pattern matching or threshold standards (such as the acceptable number of words in a sentence). The remaining

50% require some kind of structural analysis for identification.

Diagnostic and tutorial information. In addition to the "Standard Help" messages provided above, Right Writer provides options that provide users with what is termed "Full" and "Extended" help. For the sample sentence, "Every language and culture has1 their own richness," The following message was provided (erroneously) as "Standard Help":

1. Should "has" be in its plural form?

The selection of the "Full Help" option resulted in this message:

1
Look at: has
Question: Should this be the plural form of the verb?

Suggestion: Replace "has" by its plural form.

The selection of "Extended Help" provides a longer tutorial message, similar to that of the other programs.

Right Writer has a unique feature in its help menu, which allows users to view a tree diagram of a given sentence. The tree diagram in Figure X is for the sentence, "The dog walked past the park barked."

The use of the word "pure" in the classifications indicates words that are not ambiguous in terms of their part-of-speech identification (Note that the word "walked" is identified as verb and not a participial adjective).

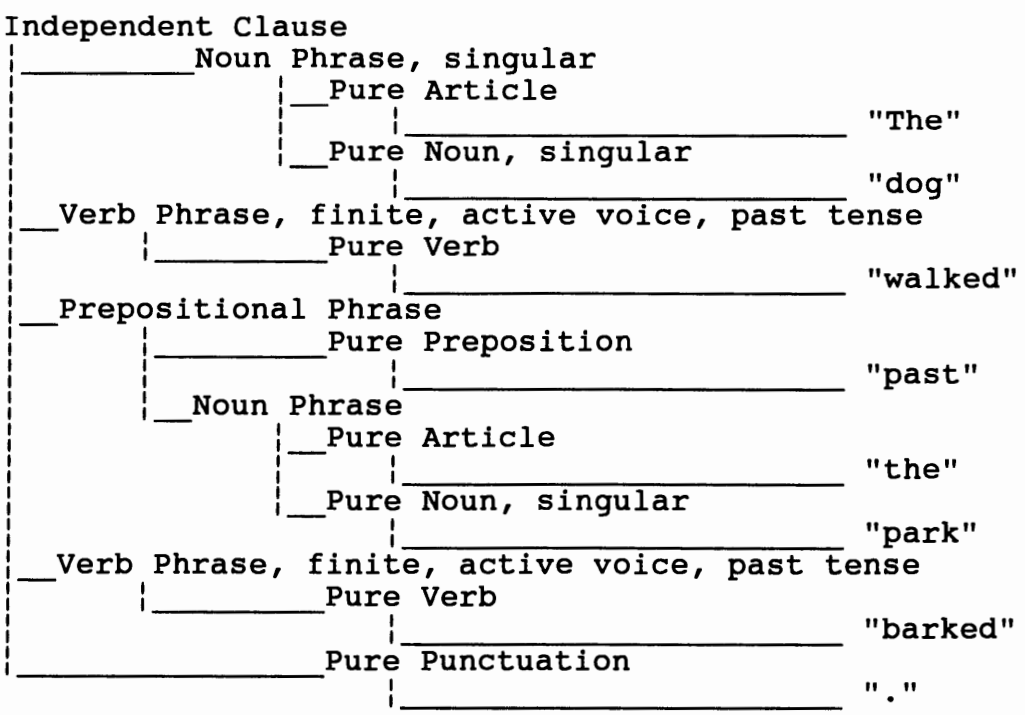

Figure 4. Tree diagram produced by Right Writer

User Modification. Right Writer has nine different style settings from which users can choose, including one that activates all the rules. Individual rules and classes may be turned on or off to create a customized style. Another way to adjust rules is by using the "Grammar Equalizer", which resembles the equalizer of a stereo sound system. Levels of strictness can be adjusted from low to high for the categories of punctuation, usage, grammar, style, capitalization, and structure. Right Writer also has a command listed as "Edit Language Rules," but this does not allow users to make any changes in structural rules. Instead, it permits users only to add specific words or phrases to a user dictionary of problematic expressions. Although users can write messages

associated with these words or phrases, it is not possible to modify existing advice messages or tutorial information.

PART 2: ANALYSIS OF SAMPLE SENTENCES

The body of sentences used in this part of the accuracy evaluation can be found in Appendix A, followed by a listing of the error patterns found in each sentence in Appendix B. The list of error patterns also includes an item-for-item record of the results for each of the grammar checkers used in this study. The symbols used to record results are defined as follows:

0 = Correctly identified and diagnosed error

X = Highlighted but incorrectly diagnosed error

S = Item in a sentence tagged because an error exists elsewhere in the sentence

M = No error tagged in sentence though present

F = Structure highlighted in error-free sentences

DC = Diagnostic message representing direct correction

PO = Diagnostic messages that represent pointing out errors

IC = Diagnostic messages that represent implicit correction

Overall Results

Table VI summarizes the overall results of the evaluation, listing the frequency for each of the possible results along with the percentage of the total it represents. Although Microsoft Word 6.0 and Correct Grammar differed slightly in some categories, the overall results are so similar that the two programs will not be discussed separately in this section.

TABLE VI
SUMMARY OF RESULTS FOR THE EVALUATION OF GRAMMAR CHECKER ACCURACY WHEN ANALYZING TEST SENTENCES

ERROR TOTAL=709	MS WORD 6.0	CORRECT GRAMMAR	GRAMMATIK 5	RIGHT WRITER 6
O	299	298	349	180
%	42	42	50	25
X-S	36	35	35	29
%	5	5	5	4
M	374	376	325	500
%	52	53	45	71
F	25	24	37	61
% of 492	5	5	8	12
PO	28	26	45	73
% O,X,S	8	8	12	35
DC	307	307	339	136
% O,X,S	92	92	88	65

Of a total of 709 errors, the highest percentage correctly identified and diagnosed was achieved by Grammatik 5 (50%); Microsoft Word was second (42%), with Right Writer

a distant third (25%) (see Figure 5 for a graphic representation of differences). The number of missed errors was somewhat higher for Microsoft Word (52%) than for Grammatik 5 (45%), but both were dramatically lower than Right Writer (71%) (see Figure 6).

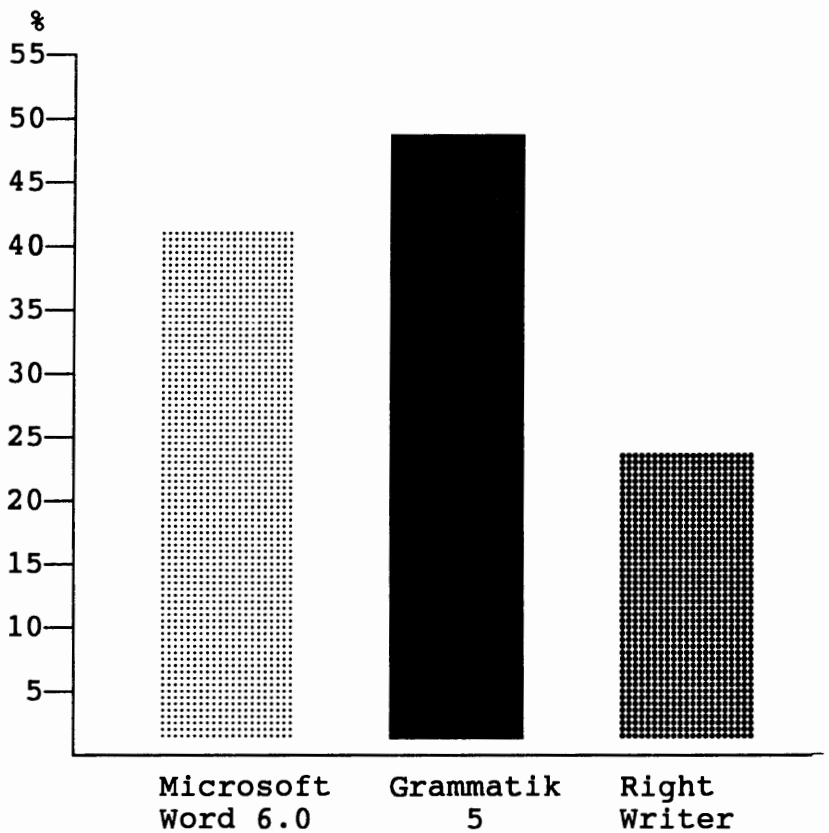

Figure 5. Percentage of errors correctly identified and diagnosed (O).

Because the percentage for incorrectly diagnosed errors (X) and (S) was negligible (5% for Microsoft Word and Grammatik 5; 4% for Right Writer), these categories were combined into one (see Figure 7). For individual error types the percentages for this category were rarely more than 10%,

with exceptions noted below.

Figure 8 illustrates the differences in falsely marked sentences. Though the number was relatively low for each of the programs, Right Writer was the highest (12%), followed by Grammatik 5 (8%), and Microsoft Word (5%).

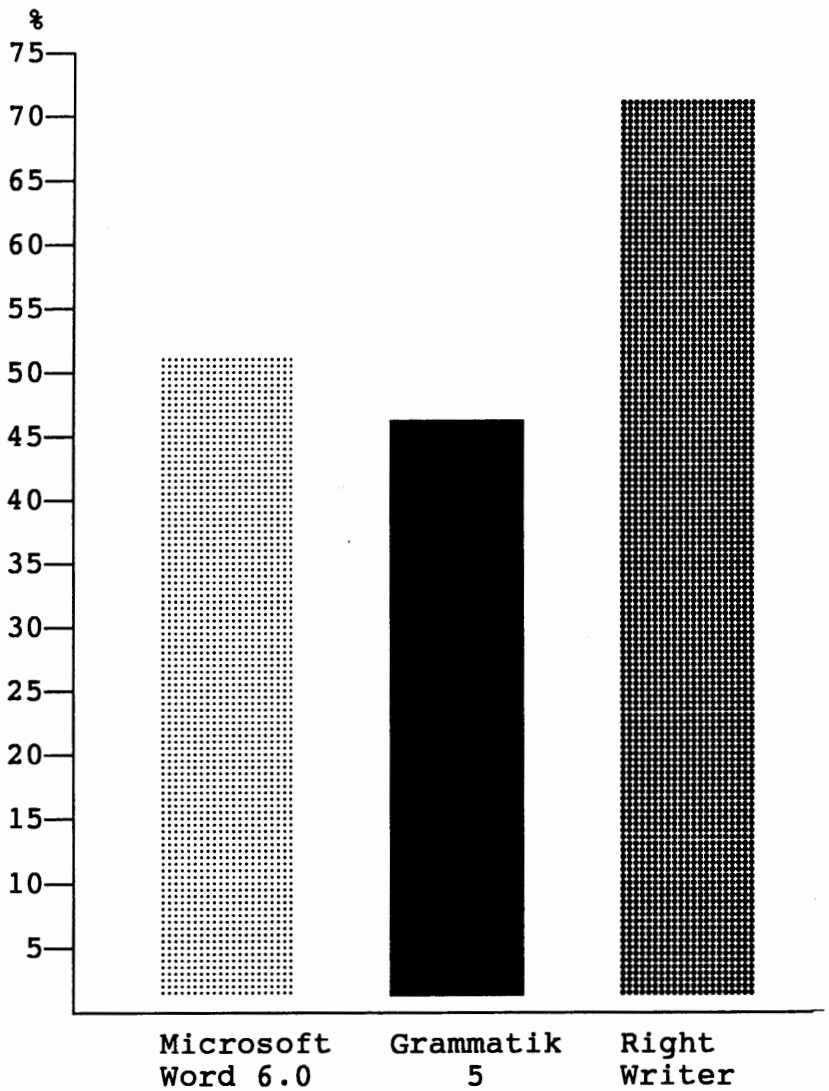

Figure 6. Percentage of missed errors (M)

The type of diagnostic messages offered by the programs was predominantly direct correction; 92% for Microsoft Word,

88% for Grammatik 5, and 65% for Right Writer (see Figure 9).

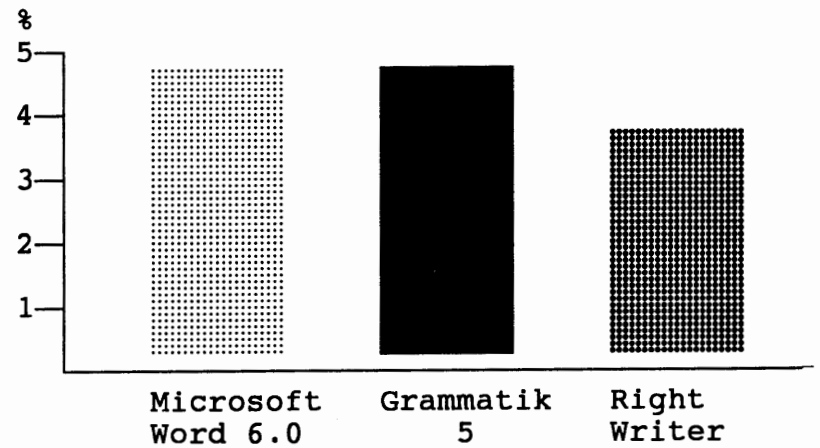

Figure 7. Percentage of incorrectly diagnosed errors (X-S).

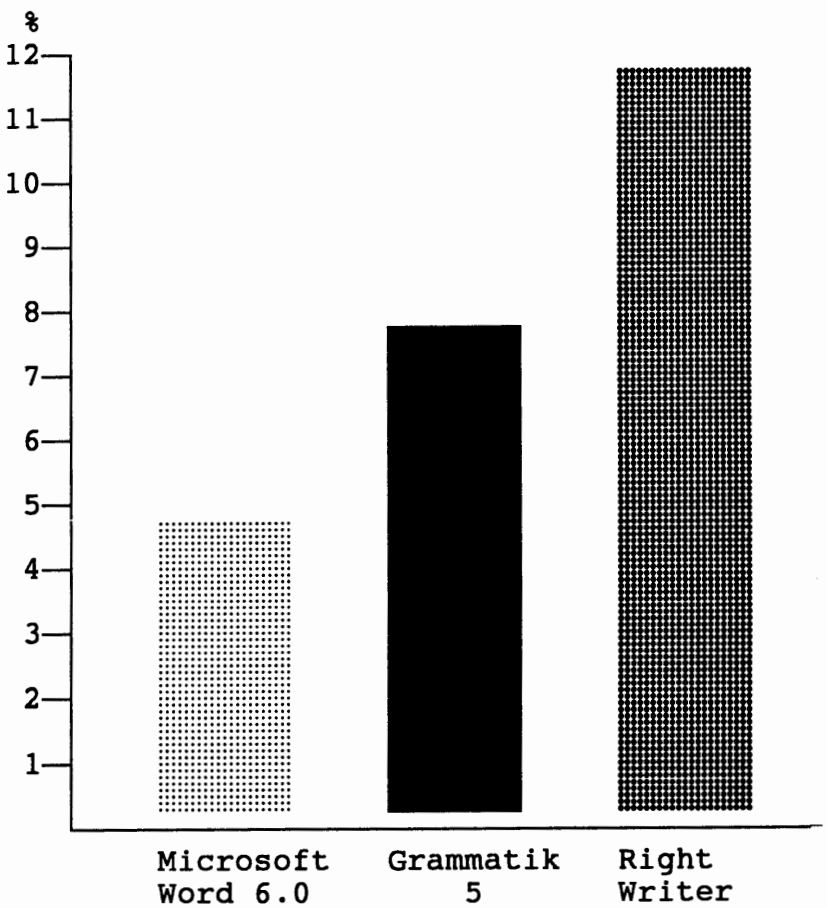

Figure 8. Percentage of falsely marked correct sentences (F).

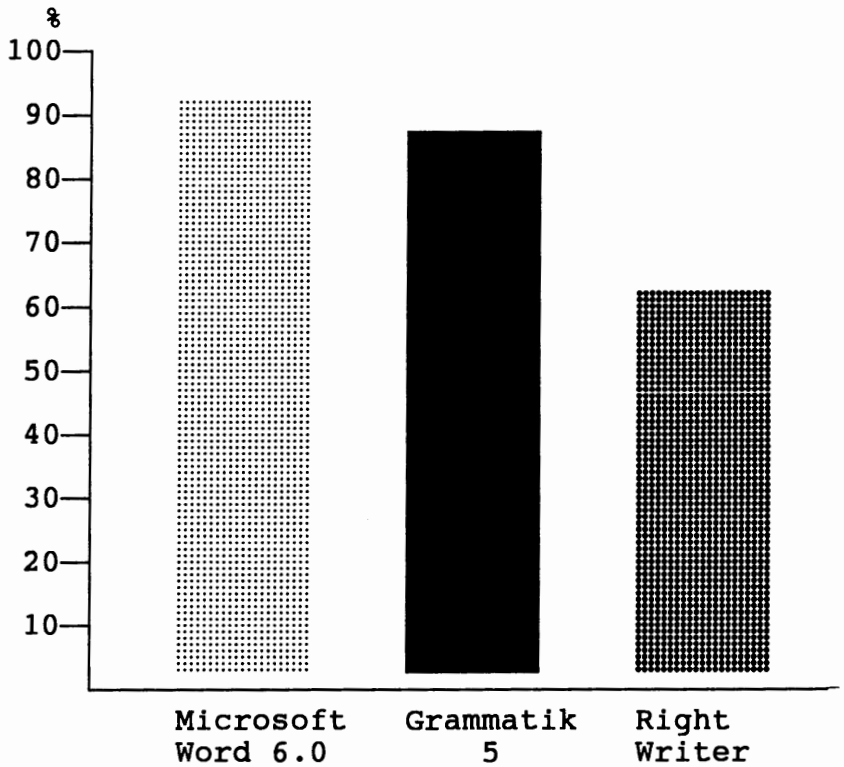

Figure 9. Percentage of diagnostic messages representing direct correction (DC).

Results for Error Categories

Punctuation. Table VII lists the summarizes the results for punctuation errors, which were represented in three categories (O. End of Sentence Punctuation, CC. Punctuation, EE. Quotation Marks). The performance of Microsoft Word and Grammatik 5 was nearly equivalent in this category for correct identification and diagnosis (30 and 33% respectively), with that of Right Writer considerably lower (9%). Figure 10 illustrates the differences in correct diagnoses and missed errors for each program.

Articles. Out of a total of 91 errors related to the use of articles (see Table VII), Grammatik 5 substantially outperformed the other programs, correctly identifying and diagnosing 40%. Microsoft Word and Right Writer tied, each scoring 22% (see Figure 11).

TABLE VII

SUMMARY OF RESULTS FOR PUNCTUATION ERRORS

ERROR TOTAL = 33	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	10	30	0	0	23	70
GRAMMATIK 5	11	33	2	6	20	61
RIGHT WRITER	5	15	2	6	26	9

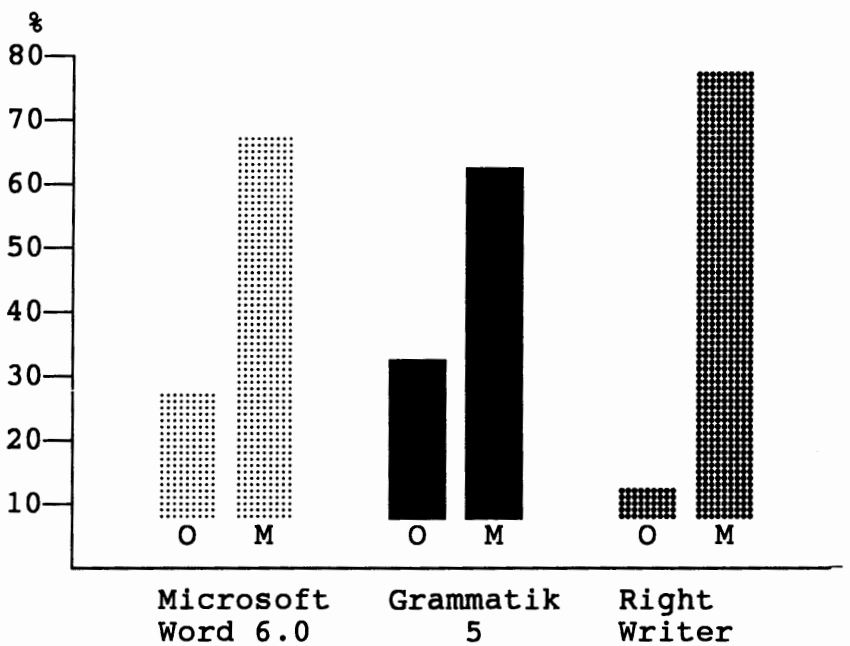

Figure 10. Correctly diagnosed (O) and missed (M) punctuation errors.

TABLE VII

SUMMARY OF RESULTS FOR ERRORS
RELATED TO THE USE OF ARTICLES

ERROR TOTAL = 91	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	20	22	4	4	67	74
GRAMMATIK 5	36	40	4	4	51	54
RIGHT WRITER	20	22	0	0	71	78

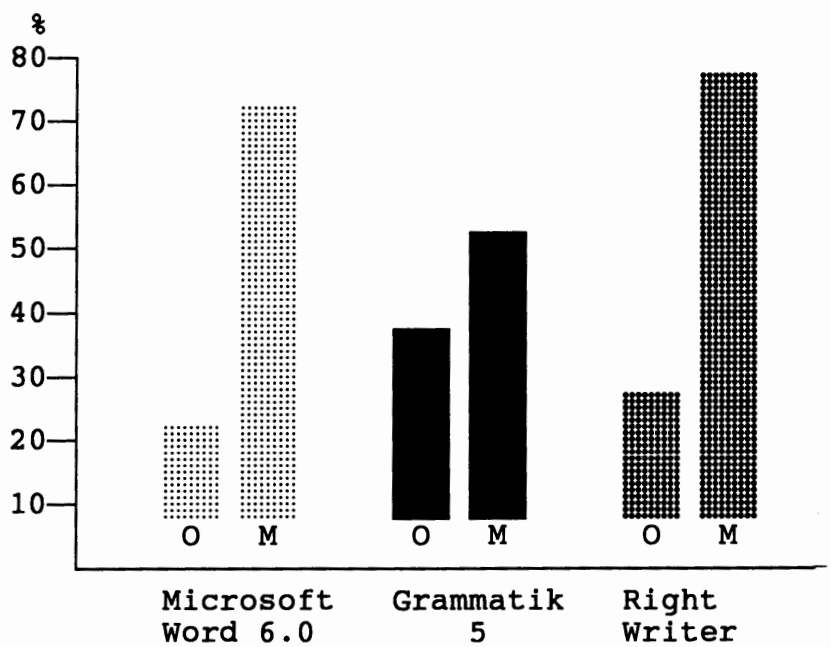

Figure 11. Correctly diagnosed (O) and missed (M) errors related to articles.

Subject-Verb Agreement. Accuracy scores for errors in subject-verb agreement (see Table IX) were quite high for both

Microsoft Word (77%) and Grammatik 5 (74%), but much lower for Right Writer, which scored only 27% (see Figure 12) This category was one of only three in which scores for any of the programs outnumbered missed errors (M) (see Figure 12).

TABLE IX

SUMMARY OF RESULTS FOR ERRORS IN SUBJECT-VERB AGREEMENT

ERROR TOTAL = 143	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	110	77	2	1	31	22
GRAMMATIK 5	106	74	4	3	33	23
RIGHT WRITER	38	27	3	2	102	71

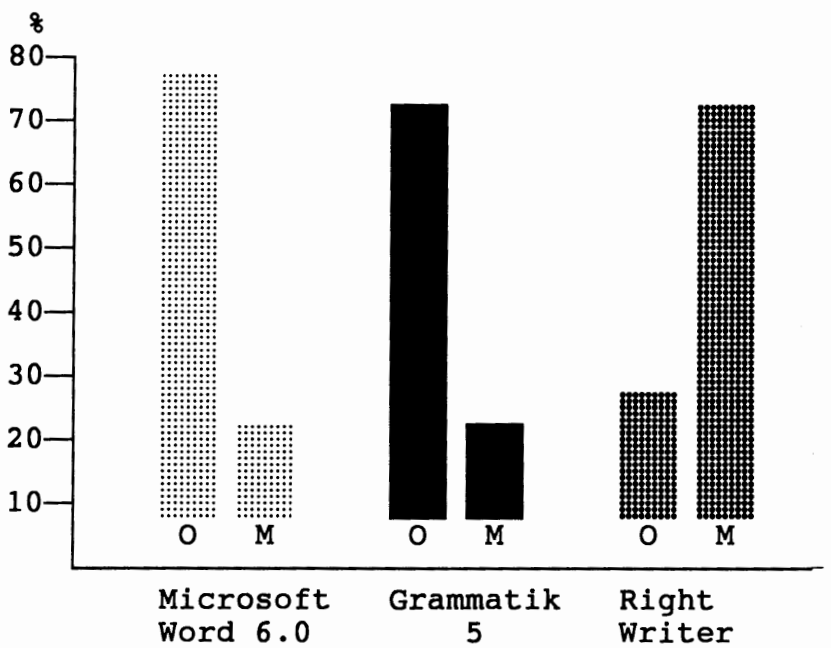

Figure 12. Correctly diagnosed (O) and missed (M) errors in subject-verb agreement.

Verb Tense. Errors related to verb tense included two

categories, Sequence of Tenses in Conditionals and Tense Shift. The results for these types of errors (see Table X) represent the second lowest accuracy scores of all the categories. Both Right Writer and Microsoft Word had a score of zero for correct identification and diagnosis (O), and 100% for missed errors (M). Grammatik 5 performed somewhat better, scoring 33% for accurate identification and diagnosis (see Figure 13).

Verb Form. The programs performed somewhat better in regards to verb form (see Table XI), which included three categories (sections S, T, and PP in the test sentences). Grammatik 5 had the highest score for correct responses (37%), followed by Microsoft Word with 37%. Right Writer was the lowest at 25% (see Figure 14).

Pronoun Errors. The results for pronoun errors (see Table XII) include two sub-categories, Pronoun Case and Pronoun Number Agreement. Grammatik 5 again performed better than the other programs, with 46% of the errors correctly identified and diagnosed. Surprisingly, Right Writer performed somewhat better than Microsoft Word, (23% and 15% respectively), though both programs scored considerably lower than Grammatik 5 (see Figure 15).

TABLE X

SUMMARY OF RESULTS FOR ERRORS RELATED TO VERB TENSE

ERROR TOTAL = 30	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	0	0	0	0	30	100
GRAMMATIK 5	10	33	0	0	20	67
RIGHT WRITER	0	0	0	0	30	100

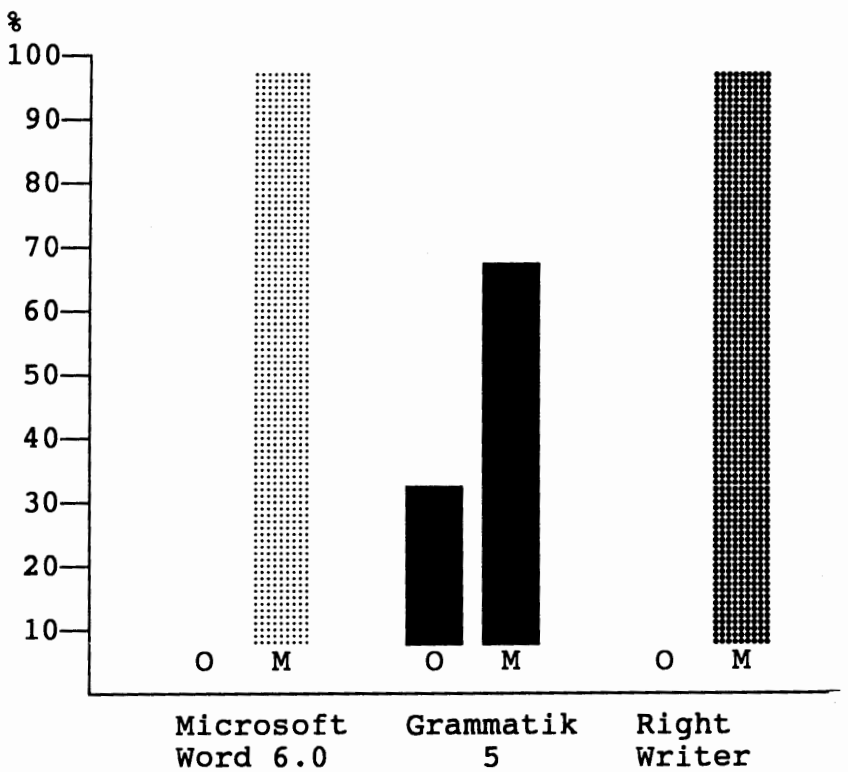

Figure 13. Correctly diagnosed (O) and missed (M) errors related to verb tense.

TABLE XI

SUMMARY OF RESULTS FOR ERRORS OF VERB FORM

ERROR TOTAL = 99	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	30	30	4	4	65	66
GRAMMATIK 5	37	37	7	7	55	56
RIGHT WRITER	25	25	2	2	72	73

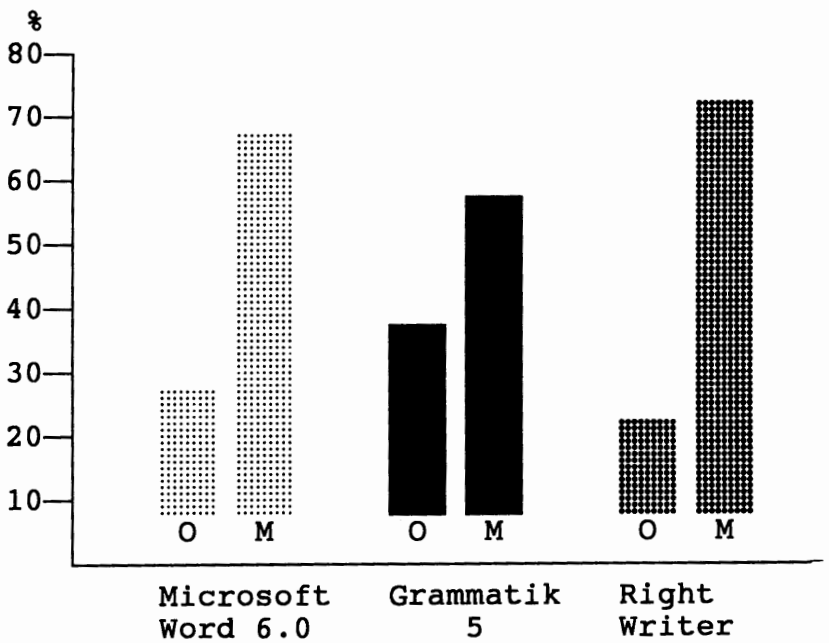

Figure 14. Correctly diagnosed (O) and missed (M) errors of verb form.

TABLE XII

SUMMARY OF RESULTS FOR PRONOUN ERRORS

ERROR TOTAL = 26	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	4	15	0	0	22	85
GRAMMATIK 5	12	46	0	0	14	54
RIGHT WRITER	6	23	1	4	19	73

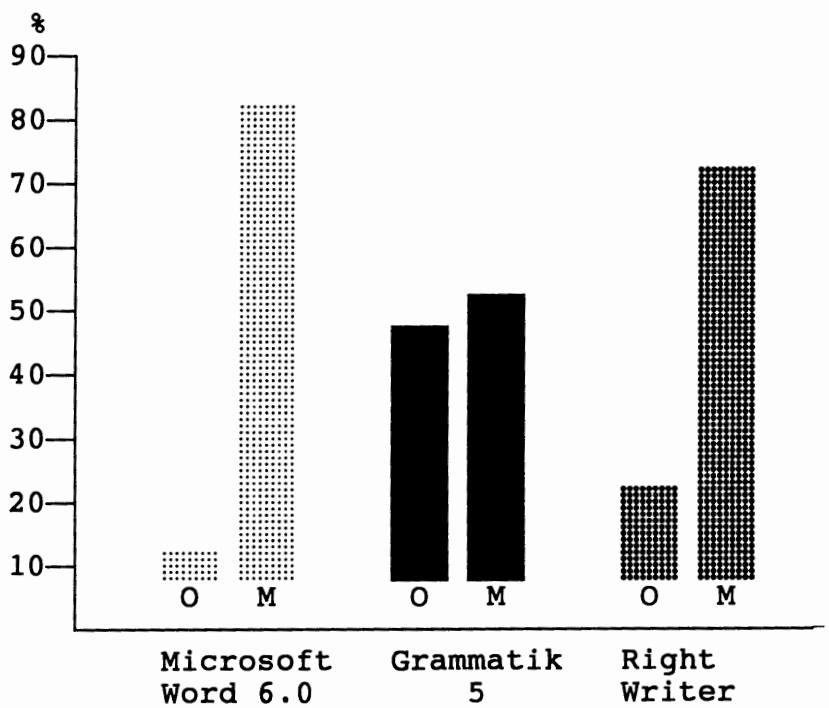

Figure 15. Correctly diagnosed (O) and missed (M) pronoun errors.

Conjunctions. Both Right Writer and Microsoft Word had very low rates of accuracy for errors related to the use of conjunctions, scoring only 6% each for correctly identified and diagnosed errors (see Table XIII). Grammatik 5 was somewhat better at 23%. Microsoft Word had a higher-than-

usual rate of incorrectly diagnosed errors (29%), which left Right Writer with the highest number of missed errors at 87% (see Figure 16).

TABLE XII

SUMMARY OF RESULTS FOR ERRORS RELATED TO THE USE OF CONJUNCTIONS

ERROR TOTAL = 31	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	2	6	9	29	20	65
GRAMMATIK 5	7	23	1	3	23	74
RIGHT WRITER	2	6	2	6	27	87

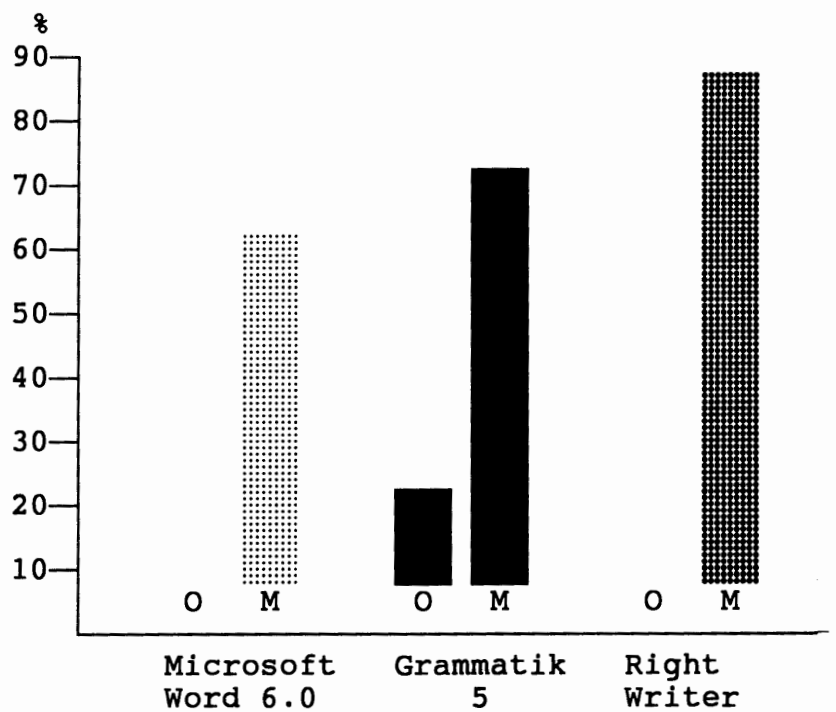

Figure 16. Correctly diagnosed (O) and missed (M) errors related to the use of conjunctions

Word Choice. The results for errors of word choice (see Table XIV) include those for the categories of

Adjectives/Adverbs, Commonly Confused Words, Homonyms, and Similar Words. The scores for correctly identified and diagnosed errors for Microsoft Word and Grammatik 5 were comparable, at 44% and 42% respectively. The score for Right Writer (24%) was just slightly more than half of the other programs (see Figure 17).

TABLE XIV

SUMMARY OF RESULTS FOR ERRORS OF WORD CHOICE

ERROR TOTAL = 55	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	24	44	3	5	28	51
GRAMMATIK 5	23	42	6	11	26	47
RIGHT WRITER	13	24	3	5	39	71

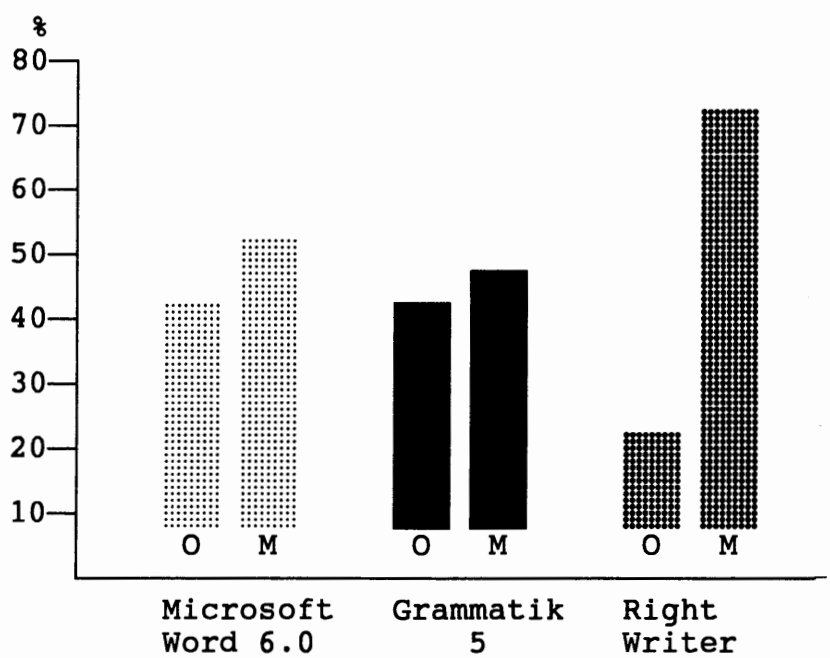

Figure 17. Correctly diagnosed (O) and missed (M) errors of word choice.

Noun Phrase. Grammatik 5 was particularly strong in the category of noun phrase errors, which principally related to number agreement, with a score of 70% for correctly identified and diagnosed errors (see Table XV). Microsoft Word was second, with a score of 53%. Even Right Writer was stronger than usual at a 43% rate of accuracy (see Figure 18).

TABLE XV

SUMMARY OF RESULTS FOR NOUN PHRASE ERRORS

ERROR TOTAL = 30	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	16	53	4	13	10	33
GRAMMATIK 5	21	70	3	10	6	20
RIGHT WRITER	13	43	1	3	16	53

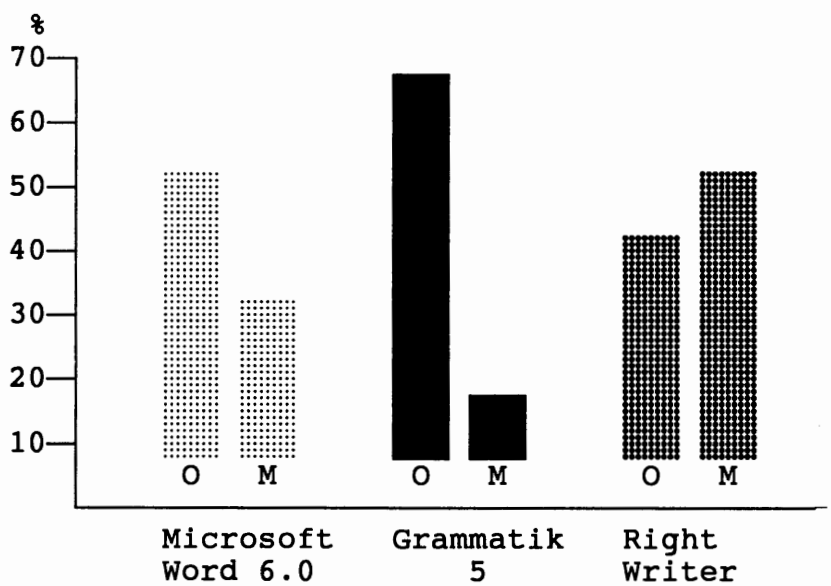

Figure 18. Correctly diagnosed (O) and missed (M) noun phrase errors.

Comparative/Superlative. Another strong area for all of the programs was in errors of comparative and superlative form (see Table XVI). Right Writer performed nearly as well as the other two programs with a score of 60% for correctly identified and diagnosed errors. Microsoft Word had the highest score, however, at 60%, and Grammatik 5 followed at 62% (see Figure 19).

TABLE XVI

SUMMARY OF RESULTS FOR ERRORS OF COMPARATIVE AND SUPERLATIVE FORM

ERROR TOTAL = 58	O	%	X-S	%	M	%
MICROSOFT WORD 6.0	38	66	0	0	20	34
GRAMMATIK 5	36	62	0	0	22	38
RIGHT WRITER	35	60	0	0	23	40

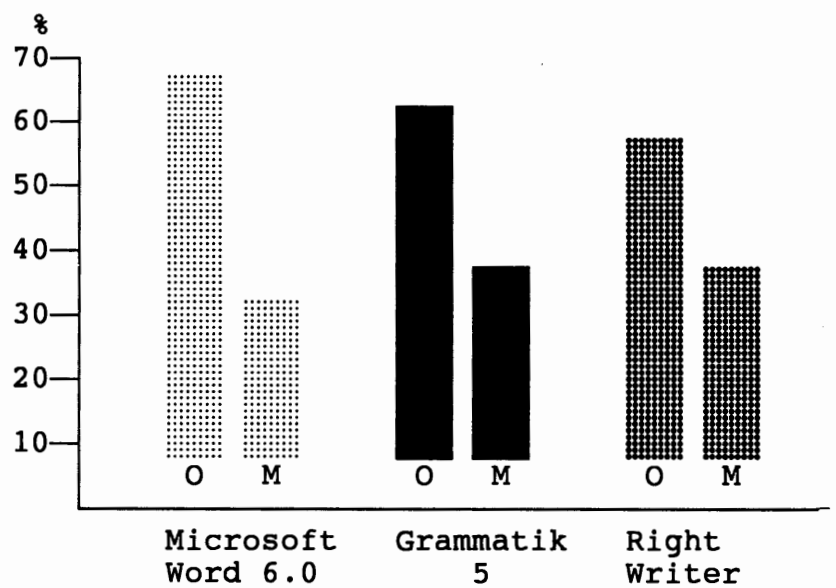

Figure 19. Correctly diagnosed (O) and missed (M) errors of comparative and superlative form.

Sentence Boundary/Prepositions. Since the total number of errors related to sentence boundary and prepositions was quite small, no percentages were calculated (see Tables XVII and XVIII). However, Grammatik 5 performed best on sentence boundary errors, correctly identifying and diagnosing four out of seven. Microsoft Word and Right Writer tied, with two each.

Grammatik 5 also scored four out of seven for correctly identified and diagnosed preposition errors. Right Writer scored two, and Microsoft Word scored zero.

TABLE XVII

SUMMARY OF RESULTS FOR SENTENCE BOUNDARY ERRORS

ERROR TOTAL = 7	O	X-S	M
MICROSOFT WORD 6.0	2	4	1
GRAMMATIK 5	4	0	3
RIGHT WRITER	2	0	5

TABLE XVIII

SUMMARY OF RESULTS FOR PREPOSITION ERRORS

ERROR TOTAL = 7	O	X-S	M
MICROSOFT WORD 6.0	0	0	7
GRAMMATIK 5	4	0	3
RIGHT WRITER	2	0	5

Ranking of Error Categories

The ranking of error categories by percentage of correct identification and diagnosis is listed in Table XIX. Subject-verb agreement was the strongest area for both Microsoft Word and Grammatik 5. Although the order of the ranking is similar for these two programs, Grammatik 5 is substantially stronger in several categories, most notably Verb Tense (by 33%), Pronouns (by 31%), Articles (by 18%), Noun Phrases (by 17%), and Conjunctions (also by 17%). Right Writer demonstrated the highest degree of accuracy in the area of Comparative/Superlative errors, but was substantially lower than the other programs in nearly all categories. The weakest area for Microsoft Word and Right Writer was Verb Tense, both with a score of zero. The lowest score for Grammatik 5, on the other hand, was 23% in the Conjunctions category.

PART 3: ANALYSIS OF A STUDENT ESSAY

Results in this section were calculated in the same manner as for the sample body of sentences except that false error messages (F) and messages related to parts of sentences other than the incorrect structures (S) were not associated with a particular error in the sentence. This was because most sentences contained multiple errors, and it was not possible to determine in many cases which error was triggering the message. (F) messages and (S) messages were differentiated in that the latter did not appear when all

errors in the sentence were corrected, but the former did.

TABLE XIX

RANKING OF ERROR CATEGORIES BY PERCENTAGE OF CORRECT IDENTIFICATION AND DIAGNOSIS

	MICROSOFT WORD 6.0	GRAMMATIK 5	RIGHT WRITER
1	SV AGREE (77)	SV AGREE (74)	COMP/SUPER (60)
2	COMP/SUPER (66)	NOUN PHR (70)	NOUN PHR (43)
3	NOUN PHR (53)	COMP/SUPER (62)	SV AGREE (27)
4	WD CHOICE (44)	PRONOUNS (46)	VERB FORM (25)
5	VERB FORM (30) PUNCT (30)	WD CHOICE (42)	WD CHOICE (24)
6	ARTICLES (22)	ARTICLES (40)	PRONOUNS (23)
7	PRONOUNS (15)	VERB FORM (37)	ARTICLES (22)
8	CONJ (6)	PUNCT (33) VERB TENSE (33)	PUNCT (15)
9	VERB TENSE (0)	CONJ (23)	CONJ (6)
10			VERB TENSE (0)

Overall Results. The sample document consisted of 73 sentences with a total of 206 errors, nearly 3 errors per sentence. Overall scores for accuracy were considerably lower than in the analysis of sample sentences (see Table XX). The program scoring highest for correct identification and diagnosis of errors (0) was Microsoft Word with a score of 21%. Grammatik 5 follows with 17%, and Right Writer last is with only 13% (see Figure 20). The percentage of errors completely missed by the programs is graphically illustrated in Figure 21. The percentages for Microsoft Word and

Grammatik 5 are comparable at 74% and 75%, while Right Writer missed 85% of all errors.

The percentage of incorrectly diagnosed errors was negligible for all of the programs, but Grammatik 5 was the highest with 8%, followed by Microsoft Word with 4% and Right Writer with 2% (see Figure 22).

The number of falsely marked errors (F) and marked sentences (S) was very low for all of the programs, with no score higher than 8 (see Table XX).

The percentage of error messages representing direction corrections was again quite high for Microsoft Word (78%) and Grammatik 5 (83%), but lower for Right Writer at 47% (see Figure 23). Right Writer tended to point out errors more often than the other programs (43%) and also produce a fair number of messages that represented implicit correction (10%).

Results for Error Categories

A total of 27 different error categories were identified and listed by frequency of occurrence.

Punctuation. There were a total of 71 puncutation errors identified in the sample essay. Of these the highest score for correct identification and diagnosis was 23% for Microsoft Word. Grammatik 5 and Right Writer were somewhat lower, with scores of 17% and 18% (see Table XXI).

TABLE XX

SUMMARY OF RESULTS FOR EVALUATION OF GRAMMAR CHECKER ACCURACY WHEN ANALYZING A SAMPLE STUDENT ESSAY

ERROR TOTAL = 206	MS WORD 6.0	GRAMMATIK 5	RIGHT WRITER 6.0
O	44	35	26
%	21	17	13
X	11	17	4
%	4	8	2
M	151	154	176
%	74	75	85
F	6	6	3
S	8	6	5
PO	12	8	13
% O,X,	22	15	43
DC	43	43	14
% O,X,	78	83	47
IC	0	1	3
% 0,X	0	2	10

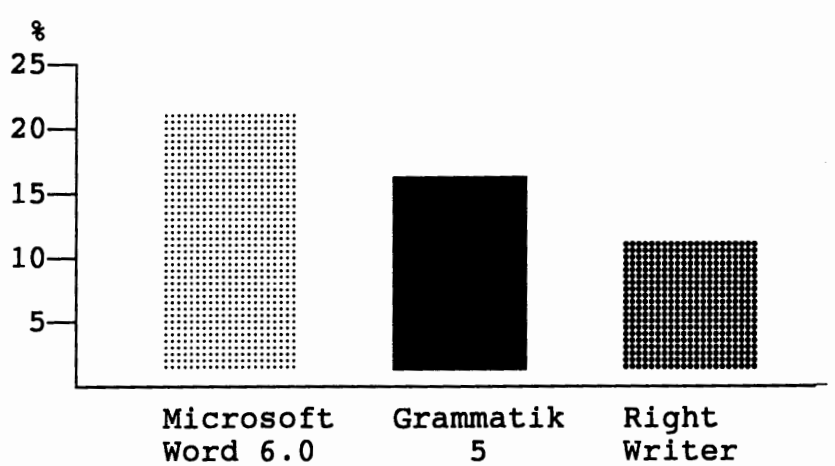

Figure 20. Percentage of correctly identified and diagnosed errors (0).

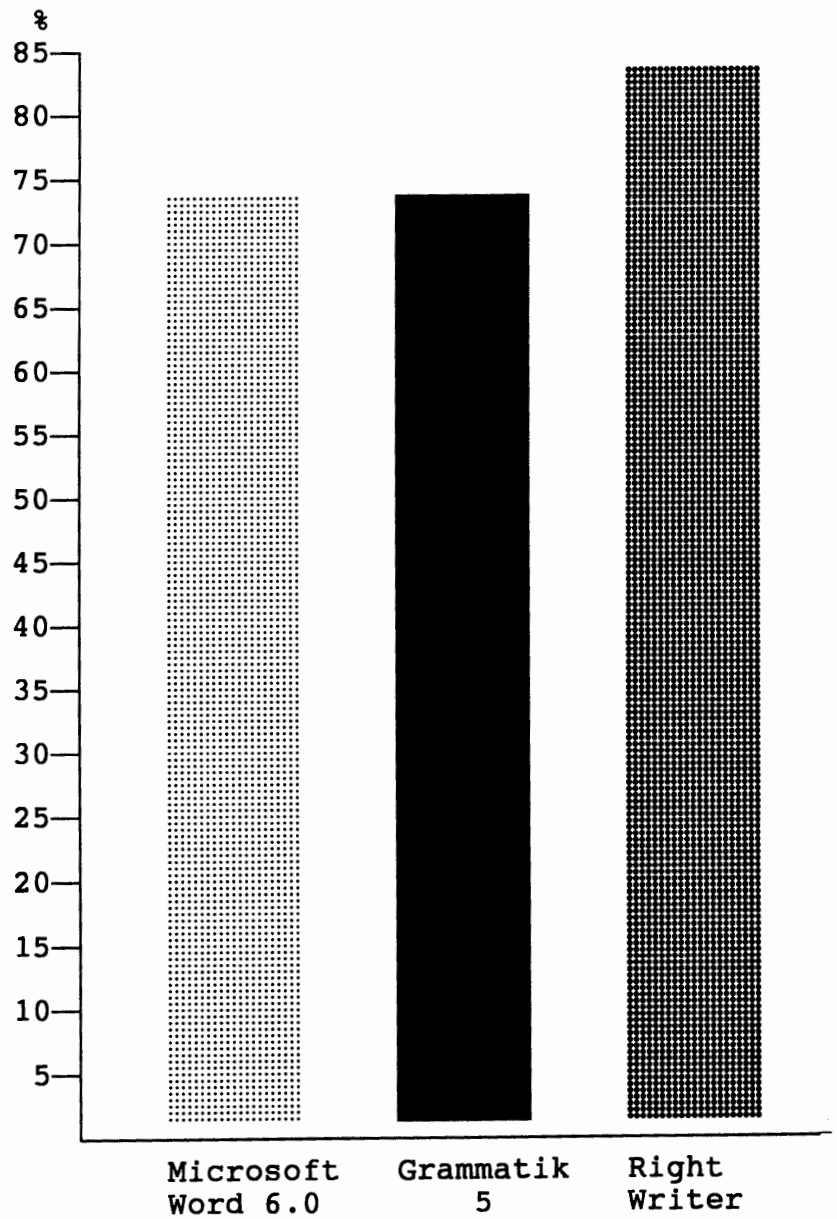

Figure 21. Percentage of missed errors (M).

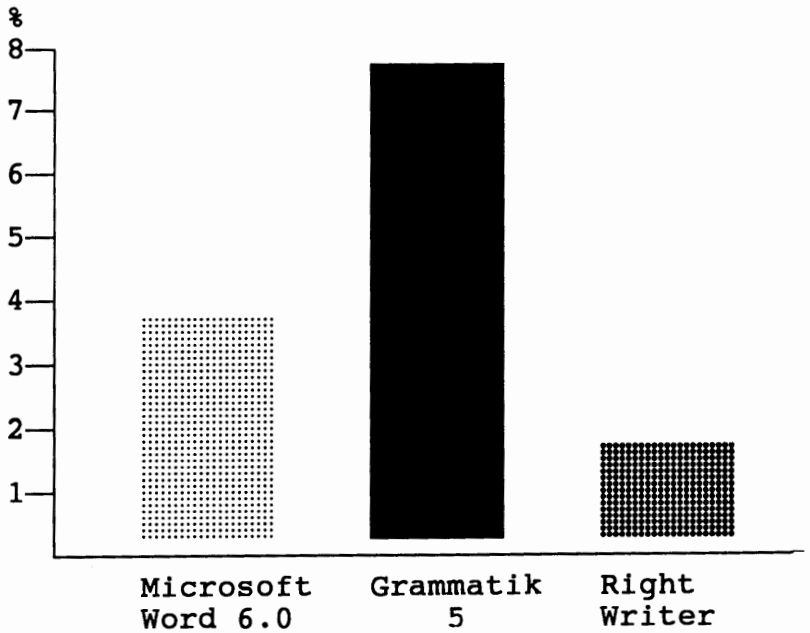

Figure 22. Percentage of incorrectly diagnosed errors (X).

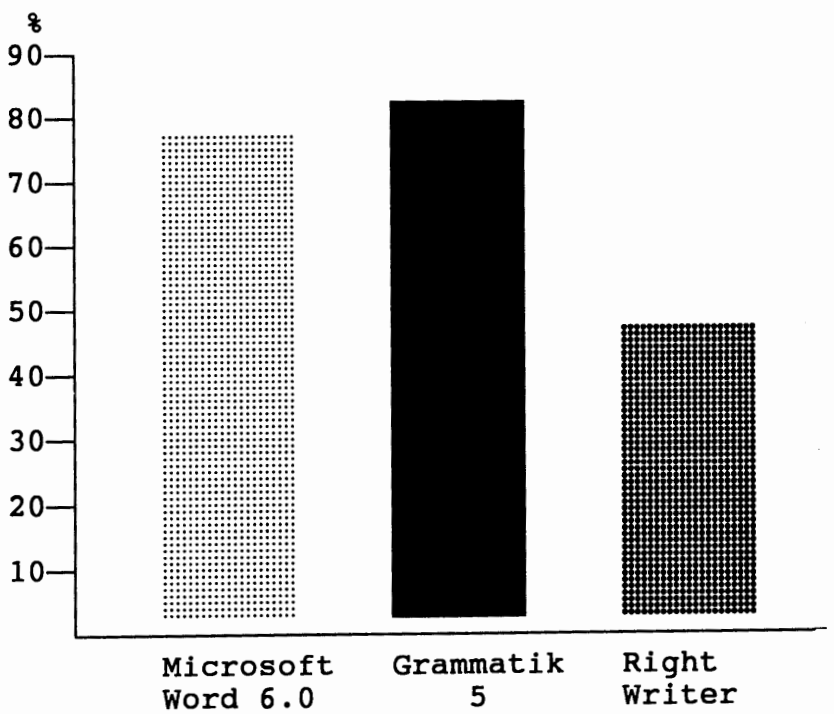

Figure 23. Percentage of diagnostic messages representing direct correction.

TABLE XXI

SUMMARY OF RESULTS FOR PUNCTUATION ERRORS

ERROR TOTAL = 71	O	%	X	%	M	%
MICROSOFT WORD 6.0	16	23	4	6	51	72
GRAMMATIK 5	12	17	9	13	50	70
RIGHT WRITER	13	18	3	4	55	77

Word Choice. Although Word Choice represented the second most frequent type of error, there were only 19 such errors identified in the essay. None of these errors were correctly identified and diagnosed by the programs (see Table XXII). However, Microsoft Word did highlight 21% of them, but with an incorrect diagnosis (X). Grammatik 5 did the same for 16% of the errors, and Right Writer 5%.

TABLE XXII

SUMMARY OF RESULTS FOR ERRORS OF WORD CHOICE

ERROR TOTAL = 19	O	%	X	%	M	%
MICROSOFT WORD 6.0	0	0	4	21	15	79
GRAMMATIK 5	0	0	3	16	16	84
RIGHT WRITER	0	0	1	5	18	95

Singular/Plural. The total for errors related to singular and plural forms of nouns was 15. Of these Microsoft Word correctly identified 20%, Right Writer, 13%, and Grammatik 5, only 7%. Grammatik 5, however, had a relatively high number of highlighted errors with incorrect diagnoses

(X), scoring 20% in this category (see Table XXIII).

TABLE XXIII

SUMMARY OF RESULTS FOR ERRORS RELATED TO SINGULAR AND PLURAL FORMS OF NOUNS

ERROR TOTAL = 15	O	%	X	%	M	%
MICROSOFT WORD 6.0	3	20	1	7	11	73
GRAMMATIK 5	1	7	3	20	11	73
RIGHT WRITER	2	13	0	0	13	8

Preposition. All of the errors in this category were missed by the programs.

Subject-Verb Agreement. For errors related to subject-verb agreement, both Grammatik 5 and Microsoft Word scored 75% for correct identification and diagnosis, which was very near the scores they achieved for the same category in the sample body of sentences (see Table XXIV). The percentage for Right Writer was 42%, which was 17% higher than for the test sentences (although the sample size here was much smaller).

TABLE XXIV

SUMMARY OF RESULTS FOR ERRORS IN SUBJECT-VERB AGREEMENT

ERROR TOTAL = 12	O	%	X	%	M	%
MICROSOFT WORD 6.0	9	75	0	0	3	25
GRAMMATIK 5	9	75	0	0	3	25
RIGHT WRITER	5	42	0	0	7	58

Conjunctions. The results for errors related to the use of conjunctions is summarized in Table XXV. Of 11 errors, Microsoft Word and Grammatik 5 each correctly identified and diagnosed 55%. Right Writer did so for only 27% of the total.

TABLE XXV

SUMMARY OF RESULTS FOR ERRORS RELATED TO THE USE OF CONJUNCTIONS

ERROR TOTAL = 11	O	%	X	%	M	%
MICROSOFT WORD 6.0	6	55	1	9	4	36
GRAMMATIK 5	6	55	0	0	5	45
RIGHT WRITER	3	27	0	0	8	73

Articles. The accuracy rate for errors in the use of articles was dramatically lower in the sample essay than in the sample body of sentences. Only one error was correctly identifed and diagnosed by Grammatik 5. The other programs missed all of the errors (see Table XXIII).

TABLE XXVI

SUMMARY OF RESULTS FOR ERRORS RELATED TO THE USE OF ARTICLES

ERROR TOTAL = 8	O	%	X	%	M	%
MICROSOFT WORD 6.0	0	0	0	0	8	100
GRAMMATIK 5	1	13	0	0	7	88
RIGHT WRITER	0	0	0	0	8	100

Remaining Error Categories. Due to the small number of errors in each of the remaining error categories, no

percentages were calculated for the results, which are listed in Table XXVII. While Microsoft Word and Grammatik 5 were generally more accurate than Right Writer, all three programs scored zero for correct identification and diagnosis for 11 of the 21 remaining error types.

SUMMARY

Figure 24 illustrates the difference in overall results between the analysis of the sample sentences and the sample student essay. While Grammatik 5 performed somewhat better than Microsoft Word in the first instance (50% correct identification and diagnosis compared with 42%), this was reversed in the analysis of the sample student essay. The performance of both programs was drastically lower, however, with Microsoft Word scoring only 21% (a 50% reduction) and Grammatik 5 only 17% (a 66% reduction). The score for Right Writer, quite low in the first place at 25%, was reduced by nearly half to only 13%.

TABLE XXVII

SUMMARY OF RESULTS FOR REMAINING ERROR CATEGORIES

		MS WORD 6.0			GRAMMATIK 5			RIGHT WRITER		
ERROR TYPE	TOTAL	O	X	M	O	X	M	O	X	M
WORD FORM	7	1	0	6	0	0	7	1	0	6
REDUNDANCY	6	3	0	3	3	0	3	0	0	6
GLOBAL	5	0	0	5	0	0	5	0	0	5
WRONG WORD	5	0	0	5	1	0	4	0	0	5
REL PRO	4	0	0	4	0	0	4	0	0	4
SENT BOUND	3	1	0	2	0	0	4	0	0	3
VERB FORM	3	1	0	2	1	0	2	2	0	1
PRO AGREE	3	0	0	3	0	0	3	0	0	3
PARALLEL	3	0	O	3	0	1	2	0	0	3
CAPS	3	0	0	3	0	0	3	0	0	3
QUANT/C NC	2	2	0	0	0	0	2	0	0	2
VERB TENSE	2	0	0	2	0	0	2	0	0	2
POSSESSIVE	2	2	0	0	0	0	2	0	0	2
WORD ORDER	1	0	0	1	0	1	0	0	0	1
SENT CONN	1	0	0	1	0	0	1	0	0	1
NOUN CLAUSE	1	0	1	0	0	0	1	0	0	1
MISS. VERB	1	0	0	1	0	0	1	0	0	1
MISS. NP	1	0	0	1	0	0	1	0	0	1
MISS. NOUN	1	0	0	1	0	0	1	0	0	1
NUMBERS	1	0	0	1	0	0	1	0	0	1
ADVERB PHR.	1	0	0	1	0	0	1	0	0	1

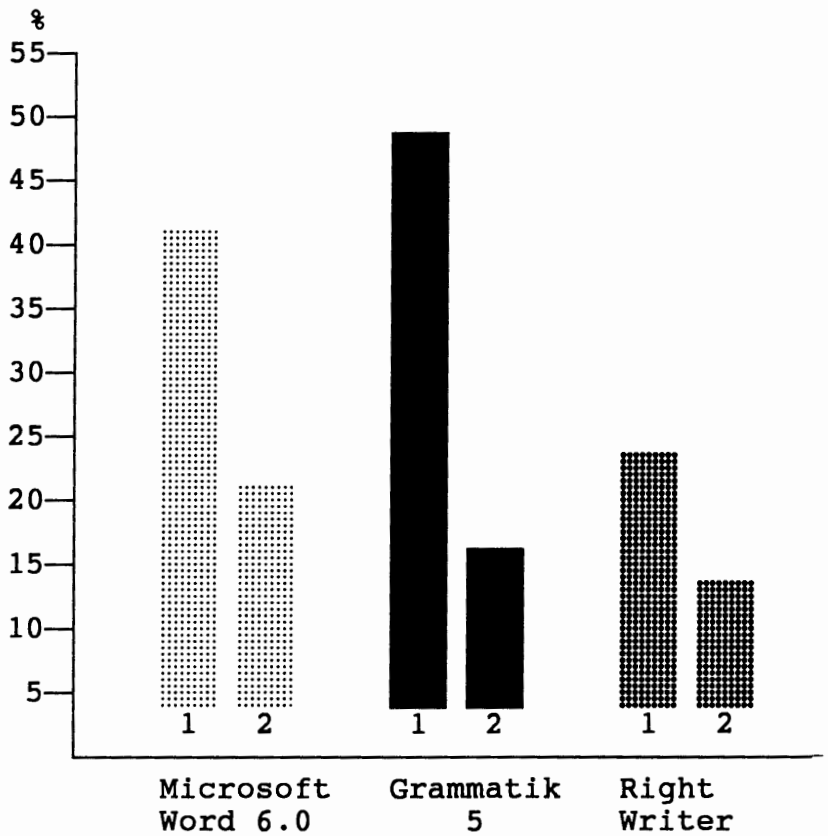

Figure 24. Correctly identified and diagnosed errors (O) for sample sentences (1) and a sample student essay (2).

CHAPTER V

DISCUSSION OF THE RESULTS

The major purpose of this study has been to examine the appropriateness of commercial grammar checking programs for use by ESL writers through descriptive analysis of various program features as well as an evaluation of program accuracy. The principle questions explored in the descriptive analysis were related to comparative ease-of-use, the nature of diagnostic advice and tutorial information along with the manner in which they are presented, and the modification capabilities of each program. The evaluation of accuracy attempted to assess program performance in terms of the types of errors that they were designed to identify in relationship to errors that are common in ESL writing.

DESCRIPTIVE ANALYSIS OF PROGRAM FEATURES

Ease-of-Use

The analysis of the basic operation of four programs (Grammatik 5, Microsoft Word 6.0 with CorrecText, Correct Grammar, and Right Writer) addressed issues related to ease-of-use, such as the steps that are necessary to enter the program, make corrections, and return to the text. Microsoft Word and Grammatik 5 were the most similar in regard to these.

In both programs, a window appears superimposed over the main text when the grammar checking program has been opened. Microsoft Word gives users the option of making corrections within the grammar checking window or in the main text. With Grammatik 5, however, all corrections are made within the main body of text. In Correct Grammar and Right Writer, both stand-alone programs, only a portion of the text appears on the screen after the program is launched. While it is possible to scroll forward in the text, it is not possible to scroll backward more than a few sentences, which makes it impossible for users to recheck previous sections without exiting and restarting the program. This also prevents users from comparing current problems with similar ones in previous sections of the text. In all programs, the presence of the grammar checking utility on the screen makes it somewhat difficult to read sentences other than the one that has been highlighted. One possible remedy for this would be for users to have a printed copy of the document available while doing on-screen editing. Correct Grammar and Right Writer, as well as the stand-alone version of Grammatik 5, give users the option of producing a printed copy to their document that is "marked-up" with diagnostic messages. On-screen interactive checking has an advantage over this, however, in that sentences are reanalyzed every time a correction is made (except in Right Writer), which may be more beneficial when there are multiple errors in a sentence.

All of the programs vary in the manner in which corrections are made, from making explicit suggestions that allow the user to press a "Replace" or "Correct" button or key, to more general suggestions that require the user to determine the structure of corrections.

On the surface, Grammatik 5 and Microsoft Word appear to be the easiest programs to use in terms of initiating grammar checking, making corrections, and returning to the text. This is probably because they are incorporated into word processing programs, and share the same interface.

Diagnostic and Tutorial Advice

Grammatik 5 and Microsoft Word were very similar in regards to the type of diagnostic messages and tutorial information they offer. Each program provides a short diagnostic message that is often accompanied by suggestions for correction. Such "direct corrections" constituted 92% of all error messages (concerning mainly structural rather than stylistic problems) for Microsoft Word and 88% for Grammatik 5 in the analysis of sample sentences. Although the total was somewhat lower for Right Writer (65%), this was still the primary mode of correction advice (Correct Grammar was equivalent to Microsoft Word).

Each of the programs offers more comprehensive tutorial advice if desired by the user. This involves a single step for Microsoft Word and Grammatik 5, but Right Writer incorporates two options, one for "Full Help" and another for

"Extended Help." Right Writer also allows users to view a representation of the sentence structure through a "parse tree." This is quite complex, however, and may be difficult for ESL students to comprehend. Grammatik 5 offers users the option of viewing the sentence with the part-of speech identified for each word, which may be more useful than an entire parse tree. All of the advice messages and tutorials rely heavily on use of grammar terminology, which may be unsuitable for students who are at a lower level or have not learned such terms. Furthermore, while the diagnostic messages almost always relate specifically to the problem at hand, the tutorial information does not. Errors are keyed to a particular "error class," and the tutorial information encompasses several possible kinds of errors that occur in that category. Pennington (1992) criticizes the general nature of such advice:

> Electronically delivered canned feedback suffers from the limitations of all generic advice; because it is designed to apply in all cases, it fails to apply in specific cases. Therefore, even under the most ordinary of circumstances, the feedback offered by these grammar checkers and style analyzers tends to be unusable, pointless, misleading, or just plain wrong. (p. 426)

Modification Capabilities

While changing from one pre-set writing style to another may be useful for writing in different genre (e.g., fiction or business reports), it is not likely to increase the effectiveness for ESL writers. The creation of a customized style guide, which is possible with all of the programs in

this study, may be more effective, however, in that students or instructors can turn off any categories that they consider irrelevant, or that have a low accuracy rate. Garton (1993) found that simply turning off "unhelpful" rule classes reduced the occurrence of inappropriate messages (primarily related to stylistic concerns) by 10% (from 76% to 66%). This feature also allows for selective scanning of a document; for example, all categories might be turned off except for Subject-Verb Agreement.

The possibility of user modification of rules, available with Correct Grammar and some versions of Grammatik 5, offers perhaps the most useful modification of an existing program, at least in terms of accuracy. Grammatik 5 has one advantage over Correct Grammar in this area, in that it allows for a "wild card" symbol (*) to substitute for lexical items in rule patterns. On the other hand, Correct Grammar allows users to write rules that include descriptions of constituent structures rather than just individual words.

One major advantage that Grammatik has over Correct Grammar is that users have the ability to revise existing diagnostic messages and tutorial information. This enables teachers to write more implicit messages, if desired, giving students more responsibility for identifying and correcting errors, as recommended by La Lande (1982). Teachers can also write messages referring students to grammar or editing guides for information that relates specifically to the error

identified.

EVALUATION OF ACCURACY

Analysis of Test Sentences

Overall Evaluation. Using a body of 150 sample sentences, Rabinovitz (1991) compared accuracy levels for style and grammar problems for several grammar checking programs, including Right Writer, Correct Grammar, and Grammatik IV. The percentage of accurately identified errors were respectively 13%, 42.7%, and 30%. In the current study, the scores for correctly identified and diagnosed errors when analyzing test sentences were 25% for Right Writer, 42% for Microsoft Word, and 50% for Grammatik 5. Both Right Writer and Grammatik improved, with Grammatik 5 surpassing Microsoft Word (the same program as Correct Grammar). Since Correct Grammar has been considered to be the most computationally sophisticated commercial program (Dobrin, 1990), these results were somewhat surprising. One explanation may be that the new version of Grammatik represents a substantial improvement over the previous ones. The higher performance may also be partly due to the fact that Grammatik 5 was the first program examined in the descriptive analysis, and its division of rule classes was used as a basic guide for determining the types of errors to be included in the test sentences. While the other programs, especially Microsoft Word, claim to check essentially the same types of errors,

some sample sentences were borrowed from Grammatik 5's tutorials, which may have also improved its performance somewhat. It should be noted, however, that the program sometimes failed to identify errors in its own sample sentences, such as the tense shift error in the sentence, "The preliminary report is concise, but the recommendations on page three needed more examination."

Incorrectly Diagnosed Errors. Errors and sentences with errors that were highlighted but misdiagnosed (X and S) were counted separately in consideration of the possibility that writers would be more likely to correct such errors than those that are missed completely. The percentages for such instances were very low, however, representing only 5% of all messages for Microsoft Word and Grammatik 5, and 4% for Right Writer.

Falsely Marked Structures. The percentage of structures that were falsely identified as errors was relatively low: 5% for Microsoft Word, 8% for Grammatik 5, and 12% for Right Writer. The numbers would have been dramatically higher, however, if highlighting of stylistic problems, which are marked every time they occur, had been included in the total. Falsely marked structures can be interesting in that they reveal something about how the programs are processing a sentence. For example, the following messages were produced by Correct Grammar in response to the sentence, "What time do you usually go to work?":

"Consider does instead of do."

"Consider times instead of time."

The program is looking for agreement between the noun, "time," and the auxiliary, "do." This would be appropriate in noun clause constructions, such as "What John does is of no concern to me."

The message for the sentence, "People who think directing traffic is fun have never stood in a busy intersection," is also interesting:

"Consider are instead of is."

This shows that the word "directing" is being identified as a participle rather than a gerund, and that the program interprets this clause as equivalent to, "People who think while they are directing traffic are fun people."

Grammatik 5's false messages are also revealing. For the sentence, "It was a unique wedding and a union that was made in heaven," the following message was offered:

"A compound subject requires a plural verb, not the singular verb, was."

Obviously the program is ignoring the beginning of the sentence, which contains the subject, "it," and adhering to a rule that probably identifies the pattern, "noun + and + noun + that + singular verb" as an error. This type of pattern-based identification is also obvious in the message produced for the sentence, "I haven't read a good novel recently, nor have I seen a good movie.":

"The subject pronoun I should not be used as an object." In this case, the program is apparently using a rule that tags any structure that represents the pattern, "verb + subject pronoun." The false messages produced by Right Writer seem to be related to structures that are checked every time they occur, whether correct or incorrect. For example, the combination of words "his or" are marked every time they occur with the message, "Is 'his or' being used correctly?" Also, whenever a tag structure is used, as in the sentence, "The machines work well, don't they?", the structure is tagged with the message, "Do the noun and the verb agree in number?" Right Writer also applies different standards than the other programs regarding pronoun agreement with determiners such as "each" and "every." A sentence such as, "Every language and culture has its own richness," prompts the message, "Should has be in the plural form?"

The main concern with false messages, as well as messages for misdiagnosed errors, is that ESL students are not likely to be able to distinguish them from legitimate messages, and will be led down the proverbial garden path.

Individual Error Categories. The most frequent types of errors for ESL students are listed by Kroll (1990) as punctuation, lexical or phrase choice, articles, verb tense, prepositions, word form, singular for plural nouns, subject-verb agreement, verb formation, and run-on sentences. The results for each of these types of errors are discussed in the

following sections.

Punctuation. The scores for Grammatik 5 and Microsoft Word, at 33% and 30% respectively, were lower in this category than in their overall scores, but slightly higher for Right Writer at 15%.

All of the programs performed poorly on errors related to comma use after introductory words or phrases, separating items in a sentence, after coordinating conjunctions, and before and after non-essential words and phrases (Category CC, Punctuation, Nos. 2-12). In fact, none of the programs correctly identified any items of this type. The programs performed best on errors of doubled punctuation and when quotation marks and other punctuation were in the wrong order.

Lexical/Phrase Choice. Although the results include a category labeled "Word Choice," these reflect problems that are more common for native writers than for ESL students, such as confusion between similar sounding words (accept/except), words that have similar meanings (farther/further), or even common typographical errors that wouldn't be caught by a spelling checker (form/from). Although ESL students may make these kinds of errors, they are more likely to misuse words because they do not understand the meaning or nuance correctly, or they simply lack the vocabulary to match their intended message (Dalgish, 1991).

Articles. Although errors related to the use of articles are usually superficial and do not interfere with meaning,

Kroll lists them as the third most frequent. In this category all of the programs performed well in matching 'a' or 'an' with consonant or vowel sounds (this represents simple string matching with some exceptions listed) and for the use of 'a' with plural nouns. Microsoft Word does not differentiate between singular nouns and non-count nouns, however, so it missed problems that coupled them with 'a'.

All of the programs performed poorly with problems that require specific rules, such as names of countries, bodies of water, universities, and so on. Grammatik 5 was slightly better in this area than the other programs, picking up errors such as "the France." Grammatik 5 was also somewhat better at detecting missing articles as in the sentence, "I haven't read good book recently."

Verb Tense. Grammatik 5 correctly judged two out of four errors related to the sequence of tenses in conditionals, whereas the other programs did not. None of the programs identified any other errors related to tense shift, including differences between tag endings and main clauses and tense shifts between clauses in complex or compound sentences. This seems to be a clear example in which common ESL errors are overlooked by the programs. In an area where native speakers would be more likely to make errors, the formal use of appropriate tenses in noun clauses occurring in reported speech, Grammatik 5 was quite strong, judging all but one problem correctly.

Prepositions. There were only seven problems related to the idiomatic use of prepositions and these all concerned expressions that are typically followed by certain prepositions (e.g. "according to"). Grammatik 5 was correct on all of the examples that were listed in its tutorial information (4 out of 7), but missed the other problems. Microsoft Word missed all the problems, and Right Writer scored 2 out of 7.

Word Form. This category was not really dealt with in the test sentences except for confusion between adjectives and adverbs. Grammatik 5 was strongest for these types of problems, correctly identifying 8 out of 12 problems. Microsoft Word and Right Writer each identified only three.

Singular for Plural. Most errors of this type were listed under the category of Noun Phrase. Out of 16 problems, Grammatik 5 correctly identified 13, Microsoft Word, 12, and Right Writer,6. These problems related primarily to number disagreement between plural determiners and single nouns.

Subject-Verb Agreement. This was the strongest category for both Grammatik 5 (74% correct) and Microsoft Word (77% correct). This was the largest single category in the body of test sentences, with a total of 143 problems. The two programs performed well in nearly all areas, including sentences where there was an intervening phrase between the subject and verb ("Ralph, as well as his employees, attend the conference once a month"), and in sentences with relative

clauses where both the main verb and the verb in the relative clause must match the subject in the main clause ("The children who is near the beach knows how to swim"). They also were effective for problems related to pronouns such as "everyone" and "nobody" as well as correlative conjunctions such as "neither...nor" and "either...or."

One reason that the programs are stronger in this category could be that native writers may tend to make errors in subject-verb agreement when the subject and verb are separated by an intervening word, phrase, or clause. This can easily happen when revising with a word processor, if a writer makes changes in the predicate of a sentence but forgets to check for agreement with the subject.

Unlike the other programs, Right Writer scored quite low in this category with only 27% correct identification and diagnosis. Even when a parse tree clearly showed a singular noun in a noun phrase and a plural verb in the following verb phrase, it often didn't tag the error.

Verb Formation. Right Writer and Microsoft Word performed better in this category than they did for Verb Tense, with respective scores of 25% and 30% for correct identification and diagnosis. Grammatik 5 was slightly higher at 37%. According to Shaughnessy (1977), native writers are likely to make errors in choosing the wrong form of a verb, but non-proficient writers have trouble with the construction of particular verb forms. The only problems of this type that

the programs seemed to consistently recognize were structures that included a form of "have," accompanied by other than past participle forms of verbs, such as, "We had already eat when he arrived," or "The guest of honor had already ate." This category also included problems related to infinitives, especially inflection of the base verb form. In general, the programs identified errors in irregular forms ("She didn't want to took lessons") but not in regular forms ("She liked to played tennis"). This suggests that these types of errors are handled by string matching rather than by rule.

Run-on Sentences. There were only four sentences of this type, which were included in the results under the Sentence Boundary category. Of the total, two were correctly identified by Grammatik 5 and two were missed. None of the errors were correctly identified by Microsoft Word, but the program did produce an interesting incorrect diagnosis. The correct version of the sentence used in these problems was, "A thermometer measures temperature; however, a barometer measures air pressure."

The incorrect versions were as follows:

1. A thermometer measures temperature, a barometer measures air pressure.
2. A thermometer measures temperature a barometer measures air pressure.
3. A thermometer measures temperature, however, a barometer measures air pressure.

4. A thermometer measures temperature however a barometer measures air pressure.

For each of these problems Microsoft Word produced the same suggestion:

"Consider measure's or measures' instead of measures."

This was accompanied by the following tutorial information:

> A plural noun that modifies another noun may be an error for the possessive form (which uses an apostrophe). Plural nouns are, however, used in certain phrases and titles, such as 'employee benefits plan' or 'field operations supervisor'.

Obviously, the program was mistaking the verb "measures" for a plural noun and identifying it as a potential error in possessive form. No message appeared for the correct version of the sentences, however, which suggests a degree of rule-based operation. When the program is able to parse the correct sentence, no error message is produced. When the parse fails for the other sentences, patterns in the error grammar are compared with those in this sentence. In this case, the one that matches relates to the sequence of a plural noun followed by another noun. Interestingly, when another sentence was tried that did not contain a lexically ambiguous verb ("Children enjoy fairy tales, however, adults enjoy them too"), the error was correctly identified as a run-on sentence.

Parallel Structure. Another area that is troublesome for ESL students but is not included in the ten most frequent categories is parallel structure. In the category of

Conjunctions, all but five of the sentence were related to this problem. Out of 20 errors, only three were correctly identified by Grammatik 5; Microsoft Word and Right Writer missed all 20. The problems that were identified by Grammatik 5 involved the use of the correlative conjunctions, "neither...nor" and "either...or," in sentences such as, "Roger neither saw a bird nor a flower when he was in prison," and "You must either visit me or I will visit you." In other cases, even simple problems such as in the sentence, "My home offers me a feeling of security, warm, and love," were not identified by the programs.

Analysis of a Sample Student Essay

Overall Results. The most striking aspect of the results for the analysis of a sample student essay was the drastic reduction in accuracy levels for all of the programs in comparison with those for the analysis of the sample sentences. Microsoft Word, with the best performance, scored only 21% for errors correctly identified and diagnosed. Grammatik 5 achieved only 17% accuracy and the score for Right Writer was reduced by nearly half to a very low 13%.

It should be noted that these figures, though low, are substantially higher than those reported by Brock (1991), in which the accuracy of programs was tested on 166 errors identified by ESL teachers. Right Writer correctly identified only four of these (2.4%), Grammatik IV only 14 (8.4%), and Correct Grammar identified only 19 errors (11.4%). One reason

for the higher scores in the current study may be that the essay used for analysis was the third and final draft produced by the student. Even though it contained a relatively large number of errors (206), there were only five errors remaining that were identified as global. These were related to missing words or phrases that made the sentences difficult to understand, or to conflicts in meaning based on the context of the passage rather than on syntax (as expected, none of the programs were able to identify any of these types of errors).

The results for Microsoft Word (21%) in the current study are lower, however, than those reported by Liou (1993) for Complete Writer's Toolkit (using the same system), which correctly identified 38% of the errors in students' writing. Liou also used the final draft of student essays for evaluation. One possible reason for the difference may be that the current study used only one student essay, which may not have been typical, whereas Liou used essays from 19 subjects. Students in both studies were from the same first language group, however, which was Mandarin Chinese.

Style of Correction. In comparison with the analysis of the test sentences, the percentage of advice messages for the student essay representing direct correction was slightly lower for Grammatik 5 (83% compared to 88%), somewhat lower for Microsoft Word (78% compared to 92%), and even lower for Right Writer (47% compared to 65%). Right Writer was also the only program that had a noticeable number of implicit

corrections (10% of the total). When Right Writer was not making direct corrections it came closest to modeling a learning process as described by La Lande (1982). For example, in tagging a subject-verb agreement error in the phrase, "She remember one vegetarian teen told her...," Right Writer first produces the message, "Do the noun and the verb agree in number?" If the user requests additional ("Full") help, the message changes to, "Look at 'She remember'. Do the noun and the verb agree in number?" Although Right Writer also had the highest number of implicit corrections, it also had the lowest level of accuracy, and such corrections seemed to reflect the difficulty the program had in diagnosing errors. Typical types of advice that were in this category included comments such as, "Is the meaning of this sentence clear to your reader?" and "Is this a complete sentence?" These comments were not prompted by categories such as ambiguous wording or sentence fragments, but by other problems in the sentence such as missing relative pronouns or improper punctuation. They did not seem to offer much assistance in locating the specific errors in a sentence.

Individual Error Categories. The most frequent errors in the essay were similar to those listed by Kroll (1990), with Punctuation the most frequent, followed by Word Choice, Singular/Plural Nouns, Subject-Verb Agreement, Conjunctions, and Articles.

Punctuation. Of the 71 punctuation errors in the essay,

39 were related to the use of commas after introductory words or phrases, in a series, between clauses, and with quotations. As in the test body of sentences, this was a very weak area for all of the programs. In comparison with the results for the test sentences, the overall scores for punctuation were similar for Right Writer (18%) and Microsoft Word (23%), but substantially lower for Grammatik 5, which dropped from 33% to 17%.

Word Choice. Problems in this category in the sample essay were not related to confusion between similar words as they were in the test sentences; rather, they displayed a lack of understanding of the semantic nuances of various words. For example, the word "displayed" was used to mean "indicated," and the words "push up" were used in place of "increase." Such errors did not usually create syntactic errors in the sentences, so it is not surprising that none of them were correctly identified and diagnosed by any of the programs.

Singular/Plural. In the sample sentences these types of errors related primarily to errors of number agreement between quantifiers and nouns within the same noun phrase, and the programs were relatively successful in correctly identifying them. When the same kinds of errors occurred in the sample essay (as in the phrase "several expert"), the programs were not so successful. For example, in the sentence, "Several expert question whether it is good if a diet without red

meat," Grammatik 5 and Microsoft Word produced similar messages pointing out that "the word several does not agree with question." The part-of-speech identification utility in Grammatik 5 indicated that the word "expert" was being identified as an adjective, which resulted in the misdiagnosis. This message appeared even when the other problems in the sentence were corrected.

Other types of problems in this category occurring in the sample essay had to do with the use of singular forms in the general sense, as in the sentence, "I like vegetable." Because such errors are not syntactically incorrect, the programs were unable to detect them.

Subject-Verb Agreement. The comparative strength of Grammatik 5 and Microsoft Word at 75% for correct identification was nearly identical to that for the sample sentences. Right Writer's performance was somewhat improved, but still the lowest of the three at (42%). As in the analysis of sample sentences, this may indicate similarity between native and non-native writers in this category.

Conjunctions. This category included instances where sentences were begun with conjunctions, such as "and" or "but," patterns that are relatively easy for the programs to check. Problems in parallel structure were listed in a separate category, with all programs scoring zero for correct identification.

Articles. Scores in this category were substantially

lower than in the analysis of test sentences. The most common pattern in the sample essay for this type of error was the absence of articles, which is apparently difficult for the programs to detect.

Prepositions. In this category, which was listed by both Kroll (1990) and Dalgish (1991) as very common for ESL writers, all of the errors were missed by the grammar checkers. None of the items that were correctly identified in the test sentences (e.g. "in accordance with") occurred in the sample essay.

Remaining Error Categories. Many of the remaining categories involved missing elements such as relative pronouns, nouns, verbs, or complete phrases (see Table XXVII). As pointed out by Sanders (1991), missing elements are problematic for computer programs even when they can easily be corrected by a human reader, because the programs have no semantic element to help them comprehend the writer's intended meaning. This is supported by the results of this study, in which the programs missed 100% of the errors that concerned missing constituents.

CHAPTER VI

CONCLUSIONS

REVIEW OF THE STUDY

This study examined the appropriateness of commercial grammar checking programs for use by writers who are students of English as a second language.

The study was divided into two parts: a descriptive analysis of program features and operation, and an objective evaluation of program accuracy.

Questions addressed in the descriptive analysis are listed below:

1. How difficult are the programs to use? For example, what steps are necessary to enter a program, make corrections, and return to a text?
2. What categories of errors do the programs address?
3. What is the nature of the diagnostic messages and tutorial information provided to users, and how are they presented?
4. Do the programs allow instructors to create or modify diagnostic messages or tutorial advice? What is the procedure for doing so?
5. Do the programs allow instructors to create new error patterns or rules? What is the procedure for doing so? Can existing rules be turned on or off?

Questions addressed in the evaluation of program accuracy are as follows:

1. For the error types that the programs claim to detect and diagnose, how do different programs compare in rate of accuracy, particularly when checking for errors common to ESL students?

2. How do different programs compare in their rate of accuracy when analyzing a sample of actual text written by an ESL student?

3. What is the accuracy rate for particular types of errors, such as subject/verb agreement, run-on sentences, and verb tenses?

4. What proportion of correction messages represent implicit correction, pointing out of errors, or direct correction?

These questions were examined by recording the responses of each grammar checker when analyzing a body of test sentences as well as a sample student essay.

The descriptive analysis of program features showed that grammar checking programs that are components of word processing programs (e.g., Word Perfect and Microsoft Word) are perhaps easier to use than stand-alone programs, but they may lack key components that allow users to modify advice messages and tutorial information, or to add new "rules" or error patterns to the program's rule dictionary. The evaluation of program accuracy has demonstrated that such features are necessary to increase program effectiveness in

the analysis of ESL writing. In a test of sample sentences that included many errors common to ESL writers, the overall accuracy rate for the most successful program (Grammatik 5) was only 50%.

In the current study, program accuracy was substantially higher for the body of test sentences than in the analysis of an actual student essay. Microsoft Word performed best, but with only 21% of the errors correctly identified and diagnosed. A possible explanation for such large differences is that the essay contained several error patterns that were not included in the sample sentences, even though the categories were similar. Another factor may be that the sentences in the sample body were essentially well-formed, with most containing only one error. The student essay, on the other hand, contained an average of nearly three errors per sentence.

The rate of accuracy in the current study was substantially higher than in one conducted by Brock (1991) with the same or similar programs. This may be partly because the essay used in the current study represented the final draft in a revision process, and most of the non-surface errors had already been resolved.

In terms of accuracy Right Writer was the weakest of the programs. Microsoft Word and Grammatik 5 were comparable; Grammatik 5 was somewhat better in the analysis of test sentences, but Microsoft Word was somewhat better in the

analysis of the student essay. These versions of the programs are not recommended for use with ESL students, however, because of their lack of rule-writing utilities. Correct Grammar, which uses the same analysis system as is used by the grammar checker in Microsoft Word, is preferable because it contains a rule-writing component. The stand-alone version of Grammatik 5 also contains this utility (it may be possible to purchase additional software for use with the version that is incorporated into Word Perfect).

ERROR AND ERROR CORRECTION

The evaluation of commercial grammar checking programs makes it obvious that the types of errors they are likely to recognize are local errors (as described by Burt, 1975, and Celce-Murcia & Hilles, 1988) that usually do not interfere with meaning. As such, they may be classified as low-priority errors, except that many of them, such as errors related to subject-verb agreement or articles, are among the most frequent made by ESL writers (Kroll, 1990; Dalgish, 1991). Hendrickson (1978) recommends that high-frequency errors also be given a high priority for correction.

Because errors related to surface structure and mechanics have a high rate of recurrence in spite of correction (Liou, 1992, 1993), grammar checking programs may be useful for locating at least some of these types of errors. However, as accuracy evaluations indicate, a large number of these errors are likely to remain uncorrected for programs that have not

been modified. Unmodified programs are unable to provide the kind of comprehensive coverage recommended by LaLande (1982).

Chapin (1988) found that when teachers directly corrected student errors, students often simply copied out the corrections even when they did not understand why a structure was incorrect. Since grammar checking programs offer predominantly direct correction, this possibility also exists when students use them. Students may simply hit the "Replace" or "Correct" button, and as long as the program provides no error messages, assume that the sentence is correct. One possible solution for this problem is to have students use grammar checking programs for peer correction, such as recommended by Witbeck (1976) to help students understand why a particular correction may or may not be appropriate.

REVISION AND EDITING

The current paradigm for ESL writing recommends an integrated focus on process and product (Connor, 1987). The emphasis on product is not so much related to surface structural errors, however, as it is to content, rhetorical organization, and cohesion and coherence. Clearly, commercial grammar checking programs cannot offer any assistance to students in these areas. Chapin (1988) found that when teachers focused primarily on surface errors in early drafts of a paper, students were unlikely to make other kinds of revisions. Since grammar checkers also focus on surface errors, the same may be said to be true for them.

COMPUTATIONAL TEXT ANALYSIS

The commercial grammar checkers evaluated in this study incorporate in varying degrees natural language parsing techniques described by Winograd (1983). Only Correct Grammar (with the same system as Microsoft Word with CorrecText) is reported to possess a full natural language system (Dobrin, 1990). This means that it probably contains an augmented phrase-structure grammar, possibly represented as an augmented transition network (see Figure 2). According to the Correct Grammar user's guide (1992), the parsing system produces a tree diagram that it uses to find structural problems in sentences, as well as an error grammar that lists structural patterns for common errors. While the user's manual for Grammatik 5 (1992) makes reference to parsing procedures, there is no indication that it is constructing a complete representation of constituent structure. One piece of evidence leading to this conclusion is the type of error patterns stored in the "rule dictionary" of the program; each word is represented by its part-of-speech (e.g., N for noun, V for verb) , but no larger structures are identified, such as Noun Phrases or Verb Phrases.

Although Right Writer does construct a parse tree, it does not perform much disambiguation of lexical items. A word such as "like," for example might be listed as a noun, a verb, and a preposition. Right Writer appears to rely more on

pattern matching techniques than the other programs do.

A sophisticated parsing system does not necessarily translate into an effective grammar checker, as can be seen in the results of the accuracy analysis. Although Microsoft Word performed better in the analysis of a student essay, Grammatik 5 did better on the test sentences. The effectiveness of a grammar checker depends partly on the constraints placed on grammar rules through augmentation, and on the particular patterns that are listed in its error grammar (Sanders & Sanders, 1989).

IMPLICATIONS FOR TEACHING

The points that Pennington raises regarding the suitability of commercial grammar checking programs for use in ESL writing instruction are recapped below:

1. The feedback is not generalizable.
2. The software does not train the editing process.
3. There is no direct link to writing quality.
4. The educational rationale is unclear.
5. The analysis is highly inaccurate. (1991, p. 424)

These points will be discussed in the following section as they relate to the results of this study.

Feedback. Pennington says that the feedback offered by grammar checking programs is not generalizable, because it separates form from content, and students cannot learn the effects that errors may have on communication, nor how style, meaning, and focus are related. As noted previously, grammar checkers perform only structural analysis, and cannot

"understand" the sentences they are analyzing. As observed in the current study, the focus is definitely on surface errors that have little effect on meaning. These points support further the recommendation that grammar checking be done late in the writing process to perform the "cleaning-up" tasks as described by Boiarski (1980).

Editing Skills. The high percentage of direct corrections suggested by programs evaluated in this study adds weight to Pennington's argument that commercial programs do not help students develop editing skills. Moreover, the tutorial information that the programs offer is very general and often does not relate to the problem at hand. However, programs that provide users with the modification of advice messages and tutorial information (such as Grammatik 5) allow teachers to create messages that they consider more useful for learning editing skills.

Writing Quality. This issue was not directly addressed in this study. However, it has been suggested that local errors in grammar should not be overlooked if learners hope to achieve near-native proficiency in writing (Burt, 1975). An effective grammar checker might be useful for non-native writers in situations where they are expected to produce nearly perfect text (e.g. for business or academic purposes, see Liou, 1993). Unfortunately, as the results of this study indicate, commercial grammar checkers are not likely to be effective enough to produce the desired results.

Educational Rationale. Pennington argues that the need for computational analysis of a text has not been demonstrated, and that the information might be better imparted by teachers or textbooks. Wresch (1988) refers to what he calls the "calculator" argument, which implies that since grammar checking programs are likely to be available to students in non-academic settings, they should learn how to use them in their writing classes. A more viable argument for the use of the programs might be that they allow students more independence in checking for errors in their writing.

Accuracy of Analysis. The results of this study strongly support Pennington's claim that the analysis performed by commercial grammar checking programs is highly inaccurate. With such a low level of accuracy, it is difficult to justify the use of such programs under any circumstances. Inconsistent identification of errors by the programs may cause the same problems for students as does inconsistent marking by teachers. If students assume that the grammar checking program is identifying all of their errors, they probably will not correct any that are unmarked (see Chapin, 1988).

The solution to this problem of low accuracy may also be in user modifications of programs, such as the rule-writing components offered by Grammatik 5 and Correct Grammar. This kind of modification requires a lot of time and effort on the part of the teacher, however, who must determine what error

patterns are common for his or her students, and what patterns are not identified by existing rules. Moreover, the writing of rules is a somewhat complex procedure, involving the symbolic representation of words or phrases and the use of logical operators (i.e., "and," "or," and "not"). Teachers must decide if the potential benefits are worth the effort.

Learning Styles

The individual learning styles of students are an important factor that may also have a bearing on the suitability of grammar checker use in writing instruction. Although programs such as Grammatik 5 and Microsoft Word may appear easy to use, this may not be the case for all students. Loritz (1992) reported that approximately one third of the members of a class using a grammar checking program seemed unable to respond appropriately even to simple messages made by a grammar checking program:

> The last third would type a sentence like *My brother like me, and ENGPARS [the grammar checker name] would grammar-check it. They would then sit bewildered before a screen which told them to add 's' to "like". It seemed their learning style was insufficiently "autonomous" or "field independent" for them to pursue useful interaction with the system. (17)

Loritz adds that increased familiarity with a program may alleviate difficulties of this kind that some students may experience, but it is not likely to do so completely.

LIMITATIONS OF THE STUDY

Although the sample body of test sentences included a wide variety of errors, including those common to ESL students, it does not represent a realistic evaluation of program accuracy when evaluating ESL students' writing. This is because the sentences contain only one or two errors, whereas sentences written by ESL students are likely to contain multiple errors, and are therefore less well-formed. The sample student essay may present more realistic conditions, but it is possible that the essay used in this study was not typical, either in the type or the number of errors it contained. This problem would be resolved by the use of several essays written by students from different language groups.

SUGGESTIONS FOR FURTHER RESEARCH

As discussed in the limitations of the study, an accurate evaluation of grammar checker performance would benefit by using sample texts from several different students representing various language groups. Previous studies have focused on single language groups, such as native speakers of Mandarin Chinese (Liou, 1993) and Cantonese (Brock, 1990). Since members of different language groups tend to make different kinds of errors (Dalgish, 1990), it would also be interesting to see how performance varies from one group to another.

Since rule-writing offers the most promise for increased accuracy of the programs, more research in this area would be valuable. The articles dealing with this topic have essentially been "how to" reports. Research is needed that objectively evaluates how program performance is affected by the addition of user-designed rules. Though several articles have been written about the rule designing component of Grammatik 5, there have been none regarding this feature for Correct Grammar.

Finally, more research is needed on the actual use of grammar checking programs by ESL writers. It would be interesting to experiment with student use of programs under a variety of conditions; for example, checking papers individually versus as a peer correction activity, or full correction versus selective correction.

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APPENDIX A

TEST SENTENCES USED IN EVALUATION OF PROGRAM ACCURACY

TEST SENTENCES USED IN EVALUATION OF PROGRAM ACCURACY

A. ADJECTIVES/ADVERBS

Adjectives used instead of adverbs:

1. The machine works perfect.
   The machine works perfectly.
2. The machine works perfect if it is adequately maintained.
3. The machine works perfect if it is adequate maintained.
   The machine works perfectly if it is adequately maintained.

Adverbs used instead of adjectives:

4. She wants to be a professionally singer.
   She wants to be a professional singer.
5. Because she has a beautiful voice, she wants to be a professionally singer.
6. Because she has a beautifully voice, she wants to be a professionally singer.
   Because she has a beautiful voice, she wants to be a professional singer.

Word order-----adj + noun

7. He drives his car old.
   He drives his old car.
8. When he is in a bad mood, he drives his car old.
9. When he is in a mood bad, he drives his car old.
   When he is in a bad mood, he drives his old car.

Usual word order (number, description, size, color type, material

10. She has two black English velvet large beautiful hats.
    She has two beautiful large English black velvet hats.

Avoid splitting verb phrases by putting adverb phrases within them.

11. He should probably tell her.
    He probably should tell her.
12. He should probably tell her that she also might be considered a suspect.
13. He should probably tell her that she might also be considered a suspect.
    He probably should tell her that she also might be considered a suspect.

B. ARCHAIC USAGE

e.g. "whilst"

C. ARTICLES

Use 'a' before consonant sounds; an before vowels.

1. I need a answer as soon as possible.
   I need an answer as soon as possible.
2. I have an urgent request, for which I need a answer as soon as possible.
3. I have a urgent request, for which I need a answer as soon as possible.
   I have an urgent request, for which I need an answer as soon as possible.
4. John has an sports car.
   John has a sports car.
5. I have a station wagon, but John has an sports car.
6. I have an station wagon, but John has an sports car.
   I have a station wagon, but John has a sports car.
7. He left work a hour ago.
   He left work an hour ago.
8. Even though he's an honest man, he left work a hour ago.
9. Even though he's a honest man, he left work a hour ago.
   Even though he's an honest man, he left work an hour ago.
10. It was an union that was made in heaven.
    It was a union that was made in heaven.
11. It was a unique wedding, and an union that was made in heaven.
12. It was an unique wedding, and an union that was made in heaven.
    It was a unique wedding, and a union that was made in heaven.

'a' -- indefinite article/ 'the' -- definite article

Mass vs. Count

13. She thanked me for an information.
    She thanked me for the information.
14. Since I was the first to give her the news, she thanked me for an information.
15. Since I was the first to give her a news, she thanked me for an information.
    Since I was the first to give her the news, she thanked me for the information.

Singular/plural

16. I saw a children in the park.
    I saw a child in the park.
    I saw the children in the park.
17. I saw a children in the park who were playing on the swings.
18. I saw a children in the park who were playing on a swings.
    I saw the children in the park who were playing on the swings.

Special or Specific reference

19. It was an only photograph of his grandmother.
    It was the only photograph of his grandmother.
20. Although it wasn't the only photograph of his grandfather, it was an only one of his grandmother.
21. Although it wasn't an only photograph of his grandfather, it was an only one of his grandmother.
    Although it wasn't the only photograph of his grandfather, it was the only one of his grandmother.

General reference

22. Have you seen good movie recently?
23. Have you seen the good movie recently?
    Have you seen a good movie recently?
24. I haven't read a good novel recently, nor have I seen good movie.
    I haven't read a good novel recently, nor have I seen a good movie.
25. I haven't read good novel recently, nor have I seen good movie.
26. I haven't read the good novel recently, nor have I seen the good movie.
    I haven't read a good novel recently, nor have I seen a good movie.

Superlatives

27. I enjoy swimming a most of all sports.
    I enjoy swimming the most of all sports.
28. Because it provides the most exercise, I enjoy swimming a most of all sports.
29. Because it provides a most exercise, I enjoy swimming a most of all sports.
    Because it provides the most exercise, I enjoy swimming the most of all sports.

Ordinal numbers

30. This is a second time.
    This is the second time.
31. This is the first time I have been here, but a second time I have met the president.
32. This is a first time I have been here, but a second time I have met the president.
    This is the first time I have been here, but the second time I have met the president.

Names of countries/states

33. She lives in the France.
    She lives in France.
34. Before she lived in the France, she lived in Germany.
35. Before she lived in the France, she lived in the Germany.
    Before she lived in France, she lived in Germany.

36. She lives in United States.
    She lives in the United States.
37. Before she lived in the Netherlands, she lived in United States.
38. Before she lived in Netherlands, she lived in United States.
    Before she lived in the Netherlands, she lived in the United States.

Bodies of Water

39. Mississippi River is the longest river in the United States.
40. A Mississippi River is the longest river in the United States.
    The Mississippi River is the longest river in the United States.
41. Mississippi River is the longest river in the United States, and the Missouri River is the second longest.
42. Mississippi River is the longest river in the United States, and Missouri River is the second longest.
43. A Mississippi River is the longest river in the United States, and a Missouri River is the second longest.
    The Mississippi River is the longest river in the United Sates, and the Missouri River is the second longest.
44. The Lake Superior is the largest of the Great Lakes.
    Lake Superior is the largest of the Great Lakes.
45. Lake Superior is the largest of the Great Lakes, and the Lake Ontario is the smallest.
46. The Lake Superior is the largest of the Great Lakes, and the Lake Ontario is the smallest.
    Lake Superior is the largest of the Great Lakes, and Lake Ontario is the smallest.

Universities

47. I am a student at the Harvard University.
    I am a student at Harvard University.
48. Before I was a student at Yale University, I was a student at the Harvard University.
49. Before I was a student at the Yale University, I was a student at the Harvard University.
50. I am a student at University of Oregon.
    I am a student at the University of Oregon.
51. Before I was a student at the University of Washington, I was a student at University of Oregon.
52. Before I was a student at University of Washington, I was a student at University of Oregon.
    Before I was a student at the University of Washington, I was a student at the University of Oregon.

Games

53. I play a football every Saturday.
54. I play the football every Saturday.

I play football every Saturday

55. I play a football every Saturday, and I sometimes play soccer on Sunday.
56. I play a football every Saturday, and I sometimes play a soccer on Sunday.
57. I play the football every Saturday, and I sometimes play soccer on Sunday.
58. I play the football every Saturday, and I sometimes play the soccer on Sunday.

I play football every Saturday, and I sometimes play soccer on Sunday.

Regularly attended places

59. What time do you usually go to the work?

What time do you usually go to work?

One or more of a countable group

60. Two of students will not pass the course.

Two of the students will not pass the course.

61. Although two of students will not pass the course, all of the others are getting good marks.
62. Although two of students will not pass the course, all of others are getting good marks.

Although two of the students will not pass the course, all of the others are getting good marks.

Time references

63. I hope to go to England in future.

I hope to go to England in the future.

64. I hope to go to England in future, but probably not in the next few years.
65. I hope to go to England in future, but probably not in next few years.

I hope to go to England in the future, but probably not in the next few years.

66. Life was difficult in the past times.

Life was difficult in past times.

67. In the past times, life was difficult, but will it be easier in future times?
68. In the past times, life was difficult, but will it be easier in the future times?

In past times, life was difficult, but will it be easier in future times?

(Some of the categories and sentences above were modified from (Aronson 1984, English Grammar Digest, pp. 84-88).

D. CAPITALIZATION

First word of each sentence.
People's names, places, countries

languages, particular buildings, landmarks
names of days and months
titles of people
titles of works
Acronyms
salutation and closing of a letter

(1) july 19, 1994
(2) tuesday

(3) dear (4) susan,
(5) i am having a good time in the (6) united states. My (7) english classes at (8) portland state university are very interesting. Most of my classes are in (9) neuberger hall. My reading teacher's name is (10) mr. Buckman. We are reading (11) pride and prejudice, by Jane Austen. I like (12) esl very much, and the (13) willamette valley is a very lovely area.

(14) sincerely Yours,
Etsuko

July 19, 1994
Tuesday

Dear Susan,

I am having a good time in the United States. My English classes at Portland State University are very interesting. Most of my classes are in Neuberger Hall. My reading teacher's name is Mr. Buckman. We are reading Pride and Prejudice, by Jane Austen. I like ESL very much, and the Willamette Valley is a very lovely area.

Sincerely yours,
Etsuko

E. CLICHES

F. COLLOQUIALISMS
1. He made several off the wall comments.
   He made several irrelevant comments.
2. She's not about to change her mind.
   She definitely will not change her mind.

G. COMMA SPLICE, FUSED SENTENCE

1. A thermometer measures temperature, a barometer

measures air pressure.

2. A thermometer measures temperature a barometer measures air pressure.
   A thermometer measures temperature. A barometer measures air pressure.
3. A thermometer measures temperature, however, a barometer measures air pressure.
4. A thermometer measures temperature however a barometer measures air pressure.
   A thermometer measures temperature; however, a barometer measures air pressure.
   A thermometer measures temperature. However, a barometer measures air pressure.

(The above sentences were modified from one in Azar, p. 295.)

H. COMMONLY CONFUSED WORDS

accept/except

1. I'm afraid I can't except such an expensive gift.
   I'm afraid I can't accept such an expensive gift.
2. Everyone was at the conference accept the president.
   Everyone was at the conference except the president.

advert/avert

3. Whenever I look at her, she adverts her eyes.
   Whenever I look at her, she averts her eyes.
4. We averted our attention to the missing documents.
   We adverted our attention to the missing documents.

affect/effect

5. The president's comments had a terrible affect on the stock market.
   The president's comments had a terrible effect on the stock market.
6. Business executives should not let personal relationships effect their judgement.
   Business executives should not let personal relationships affect their judgement.

I. COMPARATIVE/SUPERLATIVE

Double comparatives--- "more better"
Double superlatives--- "bestest"

1. Sue is more kinder than Harold.
   Sue is kinder than Harold.
2. Even though Sue is more kinder, Harold is wiser.
3. Even though Sue is more kinder, Harold is more wiser.
   Even though Sue is kinder, Harold is wiser.

4. She is the most happiest person I know.
   She is the happiest person I know.
5. She is the most happiest person I know, but he is the luckiest.
6. She is the most happiest person I know, but he is the most luckiest.
7. I want the leastest expensive one.
   I want the least expensive one.
8. I want the leastest expensive one, not the least beautiful.
9. I want the leastest expensive one, not the leastest beautiful.
   I want the least expensive one, not the least beautiful.

use more/most w/three or more syllables

10. English is difficulter than Spanish.
    English is more difficult than Spanish.
11. Although English is difficulter than Spanish, it's more popular in Asia.
12. Although English is difficulter than Spanish, it's popularer in Asia.
    Although English is more difficult than Spanish, it's more popular in Asia.
13. Finnish is the difficultest language to study.
    Finnish is the most difficult language to study.
14. Although Finnish is the difficultest language to study, it's the most interesting.
15. Although Finnish is the difficultest language to study, it's the interestingest.
    Although Finnish is the most difficult language to study, it's the most interesting.

use -er/-est in other situations

16. This summer is more hot than last summer.
    This summer is hotter than last summer.
17. Although this summer is hotter than last summer, it's more cool than usual.
18. Although this summer is more hot than last summer, it's more cool than usual.
    Although this summer is hotter than last summer, it's cooler than usual.
19. Spanish is more easy to learn than English.
    Spanish is easier to learn than English.
20. Because it has a simpler sound system, Spanish is more easy to learn than English.
21. Because it has a more simple sound system, Spanish is more easy to learn than English.
    Because it has a simpler sound system, Spanish is easier to learn than English.
22. Italian is the most easy language to learn.
    Italian is the easiest language to learn.
23. Although Esperanto is the simplest artificial language,

Italian is the most easy natural language to learn.

24. Although Esperanto is the most simple artificial language, Italian is the most easy natural language to learn.

Although Esperanto is the most simple artificial language, Italian is the easiest natural language to learn.

Awkward patterns/exceptions

25. British society is formaler than American society.

British society is more formal than American society.

26. Japanese society is one of the formalest in the world.

Japanese society is one of the most formal in the world.

Use more/most w/ all adverbs

27. John eats quicklier than Susan.

John eats more quickly than Susan.

28. John gains weight more easily than Susan, because he eats quicklier than she.

29. John gains weight easilier than Susan, because he eats quicklier than she.

John gains weight more easily than Susan, because he eats more quickly than she.

30. Mary eats the quickliest of all.

Mary eats the most quickly of all.

31. Mary gains weight the most easily, because she eats the quickliest of all.

32. Mary gains weight the easiliest, because she eats the quickliest of all.

Exceptions: hard/harder/hardest, fast/faster/faster

33. Mr. Smith works more hard than Mr. Jones.

Mr. Smith works harder than Mr. Jones.

34. Although Mr. Smith works harder than Mr. Jones, Mr. Jones works more fast.

35. Although Mr. Smith works more hard than Mr. Jones, Mr. Jones works more fast.

Although Mr. Smith works harder than Mr. Jones, Mr. Jones works faster.

36. Mr. Smith works the most hard of all the employees.

Mr. Smith works the hardest of all the employees.

37. Although Mr. Smith works the hardest of all the employees, Mr. Jones works the most fast.

38. Although Mr. Smith works the most hard of all the employees, Mr. Jones works the most fast.

Although Mr. Smith works the hardest of all the employees, Mr. Smith works the fastest.

Fewer vs. less

39. I have fewer money than you do.

I have less money than you do.

40. You have less time than I do, but I have fewer money.
41. You have fewer time than I do, but I have fewer money.
    You have less time than I do, but I have less money.
42. I have less apples than oranges.
    I have fewer apples than oranges.
43. You have fewer oranges than apples, but I have less apples than oranges.
44. You have less oranges than apples, but I have less apples than oranges.
    You have fewer oranges than apples, but I have fewer apples than oranges.

J. CONJUNCTIONS

Coordinating (connect same structures)
and, but,or, nor, for, so, yet
noun and noun (salt and pepper)
verb or verb (win or lose)
adj. but adj. (merciless but just)

Independent Clauses

1. Although she went to bed early, but she doesn't have to get up early.
   She went to bed early, but she doesn't have to get up early.
2. Because I have to get up early, so I want to go to bed early.
   Because I have to get up early, I want to go to bed early.

Parallel structure

3. I want some wine and to eat something.
   I want some wine and something to eat.
4. Because I had to get up early and work all day, I want some wine and to eat something.
5. Because I had to get up early and worked all day, I want some wine and to eat something.
   Because I had to get up early and work all day, I want some wine and something to eat.
6. By obeying the speed limit, we can save energy, lives, and it costs us less.
   By obeying the speed limit, we can save energy, lives and costs.
7. By driving carefully, obeying the speed limit, and we follow other traffic laws, we can save energy, lives, and it costs us less.
   By driving carefully, obeying the speed limit, and following other traffic laws, we can save energy, lives, and costs.
8. My home offers me a feeling of security, warm, and love.
   My home offers me a feeling of security, warmth, and

love.

9. Because my home is safe, cozy, and comfortable, it offers me a feeling of security, warm, and love.
10. Because my home is safe, cozy, and comfort, it offers me a feeling of security, warm, and love.
    Because my home is safe, cozy, and comfortable, it offers me a feeling of security, warmth, and love.
11. When I refused to help her, she became very angry and shout at me.
    When I refused to help her, she became very angry and shouted at me.
12. When I sat down and refused to help her, she became very angry and shout at me.
13. When I sat down and refuse to help her, she became very angry and shout at me.
    When I sat down and refused to help her, she became very angry and shouted at me.

Correlative conjunctions

14. Neither blackmail could persuade him to change his mind nor whining.
15. Neither blackmail or whining could persuade him to change his mind.
    Neither blackmail nor whining could persuade him to change his mind.
16. Roger neither saw a bird nor a flower when he was in prison.
    Roger saw neither a bird nor a flower when he was in prison.
17. She is both a person of great talent and immense charm.
    She is a person of both great talent and immense charm.
18. Mrs. Marcus grew both gardenias as well as azaleas.
    Mrs. Marcus grew both gardenias and azaleas.
    Mrs. Marcus grew gardenias as well as azaleas.
19. You must either visit me or I will visit you.
    Either you must visit me or I will visit you.
20. The book is not only interesting but enlightening.
    The book is not only interesting but also enlightening.
19. She not only baked an apple pie but also a lemon pie.
    She baked not only an apple pie but also a lemon pie.
20. I want to watch the movie whether I am or not finished.
    I want to watch the movie whether or not I am finished.

Subordinating conjunctions (always begin a subordinate clause).

21. I'm although hungry, I don't feel like eating.
    Although I'm hungry, I don't feel like eating.
22. Because very tired, I want to go to bed.
    Because I'm very tired, I want to go to bed.
23. Whenever a nice day, people like to go swimming.
    Whenever it's a nice day, people like to go swimming.

although
because
if
since
unless
until
whenever

K. DOUBLED WORDS

1. She told me that that she wanted to go.
   She told me that she wanted to go.

2. She said that that was the one she wanted. (OK)

L. DOUBLE NEGATIVES
w/ no, never, not, none, nothing, hardly, scarcely, barely

1. He does not have no money.
   He does not have any money.
2. He does not have no money, and she does not neither.
   He does not have any money, and she does not either.
3. I can't hardly see.
   I can hardly see.
4. Not only can I barely hear, but I can't hardly see.
5. Not only can't I barely hear, but I can't hardly see.
   Not only can I barely hear, but I can hardly see.

M. ELLIPSIS [...]
No punctuation before or after.
1. "Once upon a midnight dreary, while I pondered..., over some forgotten ancient lore."
   "Once upon a midnight dreary, while I pondered... over some forgotten ancient lore."

N. ENDING SENTENCES W/ PREPOSITIONS (SOMETIMES O.K.)

1. You are the one I have been dreaming of.
   You are the one of whom I have been dreaming.
2. Nicotine is easy to become addicted to.
   It is easy to become addicted to nicotine.

O. END OF SENTENCE PUNCTUATION (? . !)
1. She has had a lot of experience with computers?
   She has had a lot of experience with computers.
2. Does she know how to operate a computer.
   Does she know how to operate a computer?
3. Do you think she can repair my computer?!!
   Do you think she can repair my computer?

P. FORMALISMS

Don't begin sentences with a conjunction.
Use "between" when referring to two people or things; "among" when referring to more than two.

1. He said he was tired. But that wasn't the real reason for his bad mood.
   He said he was tired, but that wasn't the real reason for his bad mood.
2. And now for something completely different!
3. King Lear divided his property between his three daughters.
   King Lear divided his property among his three daughters.
4. The old man divided his property equally among his two sons.
   The old man divided his property equally between his two sons.

Dangling modifiers
Implied subject of one clause clashes with the stated subject of another.

5. Although still functioning, we thought the car was not safe to drive.
   Although still functioning, the car, we thought, was not safe to drive.

"Disinterested" ---impartial
"Uninterested" ---not interested

6. He was disinterested in the program.
   He was uninterested in the program.
7. The judge's decision was not altogether uninterested.
   The judge's decision was not altogether disinterested.

"Hopefully" means "with hope", not "I hope"--use "with hope"

8. Hopefully, the plane will arrive on time, Boss.
   With hope, the plane will arrive on time, Boss.

Latin singulars and plurals

9. I am an alumni of Lewis and Clark College.
   I am an alumnus of Lewis and Clark College.
10. She is an alumnus of the school of hard knocks.
    She is an alumna of the school of hard knocks.
11. We must carefully record every data.
    We must carefully record every datum.
12. The media is the message.
    The medium is the message.

"who" and "whom"
subject object

13. Who did you advise?
    Whom did you advise?
14. He's the person to who I was speaking.
    He's the person to whom I was speaking.

Gender specific language
Job terminology, e.g. fireman, poetess, policeman
Pronoun use and agreement

15. In Los Angeles, every waitress is an aspiring actress.
16. In Los Angeles, every waiter is an aspiring actor.
17. Every student is responsible for his own academic achievement.
    Every student is responsible for his or her own academic achievement.
18. Mankind must learn to live in peace.
    Humanity must learn to live in peace.

Q. HOMONYMS

it's=it is its=possessive

1. Its in our best interest to seek a solution to the problem of world hunger.
   Its in our best interest to seek a solution to the problem of world hunger.
2. As it matures, a snake periodically sheds it's skin.
   As it matures, a snake periodically sheds its skin.

their/there/they're

3. Most people like to do things there own way.
4. Most people like to do things they're own way.
   Most people like to do things their own way.
5. Restaurant patrons are usually satisfied if there given good service.
6. Restaurant patrons are usually satisfied if their given good service.
   Restaurant patrons are usually satisfied if they're given good service.

threw/through

7. He through the ball too fast for me to hit.
   He threw the ball too fast for me to hit.
8. If you pass threw Nagoya, be sure to visit Nagoya Castle.
   If you pass through Nagoya, be sure to visit Nagoya Castle.

to/too/two

9. I will return two Japan soon.

10. I will return too Japan soon.
    I will return to Japan soon.
11. I'm to tired to go out.
12. I'm two tired to go out.
    I'm too tired to go out.
13. I'd like to pounds of ground beef, please.
14. I'd like too pounds of ground beef, please.
    I'd like two pounds of ground beef, please.

whose/who's

15. Here is a person who's time has come.
    Here is a person whose time has come.
16. She's the person whose going to help you.
    She's the person who's going to help you.

R. INCOMPLETE SENTENCE

Every sentence must have 1) a subject, 2) a verb, 3) the ability to stand alone.

1. Bob decided not to study marine biology. Because he'd never been in the marines.
   Bob decided not to study marine biology because he'd never been in the marines.
2. He has several favorite past-times. For example, swimming, knitting, and tickling the dog.
   He has several favorite past-times; for example, swimming, knitting, and tickling the dog.
3. People who think directing traffic is fun. They have never stood in a busy intersection.
   People who think directing traffic is fun have never stood in a busy intersection.

S. INCORRECT VERB FORM

confusion of 'of' for 'have'

1. You should of come with us.
   You should have come with us.
2. We would of had a better time if you could have come with us.
3. We would of had a better time if you could of come with us.
   We would have had a better time if you could have come with us.

"if that was" instead of "if that were" (subjunctive)

4. If that was the case, you would be the company president.
   If that were the case, you would be the company president.
5. If I was you, I wouldn't touch that wire.
   If I were you, I wouldn't touch that wire.
6. If you have a million dollars, how would you spend it?

If you had a million dollars, how would you spend it?

reoccur/recur

7. She suffers from reoccurring nightmares.
   She suffers from recurring nightmares.

suppose to/supposed to

8. I'm suppose to take this medicine three times daily.
   I'm supposed to take this medicine three times daily.
   suppose to/supposed to

T. INFINITIVE

to + base form *to laughs *to ran *to eaten

1. She likes to plays tennis very much.
   She likes to play tennis very much.
2. Although she likes to play tennis, she doesn't want to takes lessons.
3. Although she likes to plays tennis, she doesn't want to takes lessons.
   Although she likes to play tennis, she doesn't want to take lessons.
4. She liked to played tennis very much.
   She liked to play tennis very much.
5. Although she liked to play tennis, she didn't want to took lessons.
6. Although she liked to played tennis, she didn't want to took lessons.

   Although she liked to play tennis, she didn't want to take lessons.
7. She has never wanted to took lessons.
   She has never wanted to take lessons.
8. Although she has never wanted to take lessons, she has always liked to played tennis.
9. Although she has never wanted to took lessons, she has always liked to played tennis.

Infinitive subject w/ singular verb

10. To get top marks in all classes are difficult.
    To get top marks in all classes is difficult.
11. To understand all of these questions seem impossible.
    To understand all of these questions seems impossible.
12. To get a good grade in this class seem impossible.
    To get a good grade in this class seems impossible.
13. To leave now are rude.
    To leave now is rude.

Infinitive vs. gerund

14. I enjoy to swim very much.
    I enjoy swimming very much.

15. I enjoy swimming very much, but I dislike to jog.
16. I enjoy to swim very much, but I dislike to jog.
    I enjoy swimming very much, but I dislike jogging.
17. I hope taking a vacation soon.
    I hope to take a vacation soon.
18. I hope to take a vacation soon because I want going to England.
19. I hope taking a vacation soon because I want going to England.
    I hope to take a vacation soon because I want to go to England.

Split infinitives/sometimes o.k.

20. The teacher told us to quickly finish our assignments.
    The teacher told us to finish our assignments quickly.
21. The students had failed to, for some reason, finish their assignments.

U. NOUN PHRASE

Missing modifier before a noun

1. He let out dog.
   He let out the dog.
2. He let out the dog because cat wanted to come in.
3. He let out dog because cat wanted to come in.
   He let out the dog because the cat wanted to come in.

Missing modifier in a compound noun phrase with nouns of a differing number

4. Our softball team consists of eight boys and girl.
   Our softball team consists of eight boys and a girl.

Number discrepancy

5. A family with five boy moved in next door.
   A family with five boys moved in next door.
6. It usually takes me twenty minutes to get home, but today it took two hour.
7. It usually takes me twenty minute to get home, but today it took two hour.
   It usually takes me twenty minutes to get home, but today it took two hours.
8. These computer is still under warranty.
   This computer is still under warranty.
9. Although this computer is still under warranty, these printer is not.
10. Although these computer is still under warranty, these printer is not.
    Although this computer is still under warranty, this printer is not.
11. This children are behaving remarkably well.
    These children are behaving remarkably well.
12. These children are behaving remarkably well, but,

unfortunately, this adults are not.

13. This children are behaving remarkably well, but, unfortunately, this adults are not.
    These children are behaving remarkably well, but, unfortunately, these adults are not.
14. Those problem was very difficult to solve.
    That problem was very difficult to solve.
15. Although that problem is not difficult, those student does not understand it.
16. Although those problem is not difficult, those student does not understand it.
    Although that problem is not difficult, that student does not understand it.
17. That problems were very difficult to solve.
    Those problems were very difficult to solve.
18. Although those problems are not difficult, that students do not understand them.
19. Although that problems are not difficult, that students do not understand them.
    Although those problems are not difficult, those students do not understand them.
20. We bought a lot of fresh apple at the Farmers' Market.
    We bought a lot of fresh apples at the Farmers' Market.
21. We bought a lot of fresh apples at the Farmers' Market, but we already had a lot of peach.
22. We bought a lot of fresh apple at the Farmers' Market, but we already had a lot of peach.
    We bought a lot of fresh apples at the Farmers' Market, but we already had a lot of peaches.

Scrambled word order

21. His time for the race sets a new record track.
    His time for the race sets a new track record.

V. NUMBER STYLE

Spell out numbers zero to nine (to ninety-nine in some styles); use figures for larger numbers

1. There were 7 people at the meeting.
   There were seven people at the meeting.
2. I still owe you one hundred seventy-five dollars.
   I still owe you 175 dollars.

Use figures if one or more of the numbers falls outside of the range required by writing style.

3. This car goes from zero to 60 in thirty seconds.
   This car goes from 0 to 60 in 30 seconds.

Spell out any number that begins a sentence or clause.

4. 125 people attended the ceremony.
   One hundred twenty-five people attended the ceremony.

Use figures when referring to dates, times, addresses, measurements, fractions, identification numbers, chapters and pages.

5. I met her on July fourth.
   I met her on July 4.
6. Our appointment is for seven o'clock.
   Our appointment is for 7:00.
7. She lives at twenty-eight Baker Street.
   She lives at 28 Baker Street.
8. It's only three centimeters long.
   It's only 3 centimeters long.
9. Add one third teaspoon of vanilla to the mixture.
   Add 1/3 teaspoon of vanilla to the mixture.
10. My social security number is five-three-one, six-two, four-zero-one-two.
    My social security number is 531-62-4012.
11. Please turn to Chapter three, page seventeen.
    Please turn to Chapter 3, page 17.

W. PASSIVE VOICE (recommends not using passive voice for most styles; however, scientific writing is listed as an exception)

1. <u>For Whom the Bell Tolls</u> was written by Ernest Hemingway.

2. I like to drink sake, which is imported from Japan.

X. PEJORATIVE TERMS

Avoid unnecessary references to race, sex, nationality, religion, etc.

1. The population of Northern Ireland is clearly divided between Catholic and Protestant.
2. The belief that Jewish people are greedy is a dangerous stereotype.
3. I was seen by a woman doctor.
4. The male nurse attended to the patient's needs.

Y. POSSESSIVE FORM

Words ending in 's' take [s'].

1. Did you see Jame's new bicycle?
   Did you see James's new bicycle? (alternative pattern)
   Did you see James' new bicycle? (alternative pattern)

Words not ending in 's' take ['s]

2. Have you been following your doctors advice?
3. Have you been following your doctor advice?
   Have you been following your doctor's advice?

Possessive pronouns do not take an apostrophe.

4. That book is her's.

That book is hers.

5. That book is hers, but this one is your's.
6. That book is her's, but this one is your's.
   That book is hers, but this one is yours.
   When two nouns are joined by a conjunction, only the second noun takes and apostrophe.
7. I went to a party at Janet's and Tom's new apartment.
   I went to a party at Janet and Tom's new apartment.
   Informal Usage
8. That woman is my mother's brother's sister-in-law.

Z. PREPOSITION (idiomatic uses)

1. His proposal was in accordance to our goals.
   His proposal was in accordance with our goals.
2. Most Japanese prefer rice over potatoes.
   Most Japanese prefer rice to potatoes.
3. Our honored guest was Mr. Arthur White, an authority about soil conservation.
   Our honored guest was Mr. Arthur White, an authority on soil conservation.
4. In order to reduce pollution, all factories must comply to environmental regulations.
   In order to reduce pollution, all factories must comply with environmental regulations.
5. It is important to take good care for your health, even when you are young.
   It is important to take good care of your health, even when you are young.
6. Because of the snowstorm, many students were absent in class yesterday.
   Because of the snowstorm, many students were absent from class yesterday.
7. The student's comments were not relevant with the topic under discussion.
   The student's comments were not relevant to the topic under discussion.

AA. PRONOUN CASE (subjective, objective, possessive)

1. He handed the report to Jim and I.
   He handed the report to Jim and me.
2. Me and Jim are currently reviewing the report.
   Jim and I are currently reviewing the report.
3. Whomever wishes to attend the performance will be welcome.
   Whoever wishes to attend the performance will be welcome.
4. She is the person whom advised me to take this class.
   She is the person who advised me to take this class.
5. He is the person who I advised to take this class.
   He is the person whom I advised to take this class.

Use subject pronouns after linking verbs.

6. This is him.
   This is he.

Use subject pronouns after "than" or "as".

7. He is taller than her.
   He is taller than she.
8. She is not as patient as me.
   She is not as patient as I.

BB. PRONOUN NUMBER AGREEMENT

Problematic usage
"themselves" should not be plural, "himself" is sexist, "himself or herself" is awkward

1. In this tropical paradise a person can really lose themselves.
2. In this tropical paradise a person can really lose himself.
3. In this tropical paradise a person can really lose herself.
4. In this tropical paradise a person can really lose himself or herself.

Use a plural pronoun for antecedents joined by "and".

5. Spencer Tracy and Katherine Hepburn made his and her best movies when working for MGM studios.
   Spencer Tracy and Katherine Hepburn made their best movies when working for MGM studios.

Use a singular pronoun for antecedents joined by "or".

6. Either Ralph or Susan left their shoes in the sink.
   Either Ralph or Susan left his or her shoes in the sink.

When pronouns joined by "or" or "nor" different in number or gender, make the pronoun agree with the closest antecedent.

7. Neither the twins nor Sheila has their passport.
   Neither the twins nor Sheila has her passport.
8. Neither Sheila nor the twins have her passport.
   Neither Sheila nor the twins have their passport.

Use singular pronouns for most indefinite pronoun antecedents (someone, anyone, everybody, nobody).

9. Everyone needs to pay for their own ticket.
   Everyone needs to pay for his or her own ticket.
10. Has anyone finished all of their assignments?
    Has anyone finished all of his or her assignments?
11. Everybody must provide their own lunch.
    Everybody must provide his or her own lunch.
12. Nobody is allowed to bring their friends.

Nobody is allowed to bring his or her friends.

Use a singular pronoun when "each" and "every" precede singular nouns joined by "and".

13. Every language and culture has their own richness.
    Every language and culture has its own richness.
14. Each man, woman, and child should do their best.
    Each man, woman, and child should do his or her best.

Pronoun number in sentence tag should agree with antecedent in main clause.

15. The machines work well, doesn't it?
    The machines work well, don't they?
16. Simon and John play the piano, doesn't he?
    Simon and John play the piano, don't they?
17. This book is interesting, aren't they?
    This book is interesting, isn't it?
18. I have met you before, haven't we?
    I have met you before, haven't I?

CC. PUNCTUATION

Colon--use only to separate general information from specific.
The general information must be a complete thought, but the specific information does not.

1. My favorite colors are: red, yellow, and black.
   These are my favorite colors: red, yellow, and black.

Use a comma after an introductory word, phrase, or clause.

2. Next add the sulphuric acid to the solution.
   Next, add the sulphuric acid to the solution.
3. Whatever their age the rights of all children must be protected.
   Whatever their age, the rights of all children must be protected.
4. Because I like to eat ice cream every day I can't lose weight.
   Because I like to eat ice cream every day, I can't lose weight.

Use a comma to separate items in a sentence

5. I enjoy skiing swimming and playing tennis.
   I enjoy skiing, swimming, and playing tennis.

Use a comma before a coordinating conjunction when it connects two complete thoughts.

6. John can meet the professor at the airport and you can meet the two of them at the hotel.
   John can meet the professor at the airport, and you can

meet the two of them at the hotel.

7. John will pick up the car at the office and then he'll be able to drive to the airport.
   John can pick up the car at the office, and then he'll be able to drive to the airport.
8. John can meet the professor, and his wife at the airport.
   John can meet the professor and his wife at the airport.

Use a comma before and after nonessential words and phrases.

7. John along with the students will meet the professor at the airport.
   John, along with the students, will meet the professor at the airport.
8. The sloth a slow moving animal found in the forests of Central and South America feeds entirely on leaves and fruit.
   The sloth, a slow moving animal found in the forests of Central and South America, feeds entirely on leaves and fruit.

Use a semicolon to separate two complete thoughts (equivalent to comma plus conjunction).

9. John can meet the professor at the airport; and you can meet the two of them at the hotel
   John can meet the professor at the airport; you can meet the two of them at the hotel.

Use a semicolon to separate items in a series when there is any question where one item ends and another begins.

10. The teacher told us to work in groups of three: Susan, Jeff, and Robert, Mary, Jane, and Paul, George, John, and Ringo.
    The teacher told us to work in groups of three: Susan, Jeff, and Robert; Mary, Jane, and Paul; George, John, and Ringo.

Question mark
Use after direct questions but not indirect ones.

11. He asked if I knew the way to San Jose?
    He asked if I knew the way to San Jose.
12. Please ask Johanna when she's returning to Germany?
    Please ask Johanna when she's returning to Germany.

If quoting a question, the question mark belongs inside the second set of quotation marks.
If not part of the quotation, the question mark belongs outside of the second set of quotation marks.
Never use double punctuation.

13. Are you familiar with the famous Buddhist conundrum, "What is the sound of one hand clapping"?
14. Are you familiar with the famous Buddhist conundrum,

"What is the sound of one hand clapping?"?
Are you familiar with the famous Buddhist conundrum, "What is the sound of one hand clapping?"

15. Have you heard the Japanese saying, "The nail that sticks up gets hammered down?"
16. Have you heard the Japanese saying, "The nail that sticks up gets hammered down."?
17. Have you heard the Japanese saying, "The nail that sticks up gets hammered down,"?
Have you heard the Japanese saying, "The nail that sticks up gets hammered down"?

DD. REDUNDANT USAGE

add on (add)

1. Dr. Terdal plans to add on another room to her house.
2. Dr. Terdal plans to add another room on to her house.
Dr. Terdal plans to add another room to her house.

join together (join)

3. The fireman joined together the two hoses to make them long enough to reach the towering inferno.
4. The fireman joined the two hoses together to make them long enough to reach the towering inferno.
The fireman joined the two hoses to make them long enough to reach the towering inferno.

past history (past)

5. A responsible employer always checks a job candidate's past history before hiring.
A responsible employer always checks a job candidate's past before hiring.

recur again (recur)

6. A major earthquake is expected to recur again in San Francisco.
A major earthquake is expected to recur in San Francisco.

red in color (red)

7. The woman's face was red in color, as if she had been standing in the sun for hours.
The woman's face was red, as if she had been standing in the sun for hours.

EE. QUOTATION MARKS

Use with a colon, if first clause is a complete thought.

1. He spoke as if possessed: Out of my sight!
He spoke as if possessed: "Out of my sight!"

Use with a comma after a verb that implies a 'that' clause

2. Hopkins writes, Nothing is so beautiful.
   Hopkins writes, "Nothing is so beautiful."

Use with a "that" after a verb

3. Hopkins writes that Nothing is so beautiful as spring.
   Hopkins writes that "Nothing is so beautiful as spring."

Blending quoted words in with your own--no comma

4. Charleton Heston portrayed, "the agony and the ecstasy," of Michelangelo's life.
   Charleton Heston portrayed "the agony and the ecstasy" of Michelangelo's life.

Avoid beginning a sentence w/ a quotation.

5. "A stitch in time" saves about three dollars at the dry cleaners.

Place commas and periods inside the second set of quotation marks.

6. Don't forget that "where there's a will there's a previously unknown relative".
   Don't forget that "where there's a will there's a previously unknown relative."
7. The best ingredients for a good song are "parsley, sage, rosemary, and thyme".
   The best ingredients for a good song are "parsley, sage, rosemary, and thyme."

Place semicolons and colons outside the second set of quotation marks.

8. "I want to be alone;" won't you join me?
   "I want to be alone"; won't you join me?
9. "These are a few of my favorite things:" good movies, good books, and good friends.
   "These are a few of my favorite things": good movies, good books, and good friends.

Place exclamation points inside second pair of quotation marks if they are part of the quotation; outside if not.

10. My favorite musical is "Oliver"!
    My favorite musical is "Oliver!"
11. Whenever I worry about finishing this project on time, I remember that it only took God one day to create "the heavens and the earth!"
    Whenever I worry about finishing this project on time, I remember that it only took God one day to create "the heavens and the earth"!

FF. RELATIVE PRONOUNS

Use 'which' to begin clauses that are not essential to

the meaning of a sentence.

1. Her new car, that she bought last week, is already rusting.
   Her new car, which she bought last week, is already rusting.

Use 'that' to begin clauses that are essential to the meaning of the sentence.

2. The car which we drove to the beach was in terrible condition.
   The car that we drove to the beach was in terrible condition.

Use 'who' to refer to people in either type of clause

3. John's father, that is paying for John's education, is always pressuring him to get good grades.
   John's father, who is paying for John's education, is always pressuring him to get good grades.
4. The most interesting teachers are those that ask students challenging questions.
   The most interesting teachers are those who ask students challenging questions.

nonrestrictive clauses are set off w/ commas; restrictive clauses are not.

5. John's father who is paying for John's education is always pressuring him to get good grades.
   John's father, who is paying for John's education, is always pressuring him to get good grades.
6. The car, that we drove to the beach, was in terrible condition.
   The car that we drove to the beach was in terrible condition.

GG. RUN-ON SENTENCE (sentence w/ too many conjunctions)

Nearly everyone agrees that pollution is a serious problem and that something must be done about it, but most people don't do anything about it besides expressing their agreement, perhaps because they don't have enough time to do anything, or they think that "other" people will take care of it, or they don't really care about the problem but want to appear to be conscientious and politically correct.

HH. SECOND PERSON PRONOUN (considered informal)

When traveling in Thailand, many tourists enjoy visiting Wat Po, The Temple of The Reclining Buddha; there you can receive an expert massage, or have your fortune told.

II. SEQUENCE OF TENSES IN CONDITIONALS

In conditional sentences, always use 'had' in the 'if' clause, if the independent clause contains 'would have'.

1. If I would have noticed that your hand was stuck in the jelly jar, I would have helped you.
2. If I noticed that your hand was stuck in the jelly jar, I would have helped you.
   If I had noticed that your hand was stuck in the jelly jar, I would have helped you.
3. I would have helped you if I would have noticed that your hand was stuck in the jelly jar.
4. I would have helped you if I noticed that your hand was stuck in the jelly jar.
   I would have helped you if I had noticed that your hand was stuck in the jelly jar.

JJ. SIMILAR WORDS

closest/closet

1. Rebecca is the closet friend I have in the United States.
   Rebecca is the closest friend I have in the United States.
2. Put your clothes in the closest next to the dresser.
   Put your clothes in the closet next to the dresser.

farther/further

3. The governor's comments helped to farther our cause.
   The governor's comments helped to further our cause.

form/from

4. It's approximately 180 miles form Tokyo to Nagoya.
   It's approximately 180 miles from Tokyo to Nagoya.
5. Please fill-out this immunization from completely.
   Please fill-out this immunization form completely.

past/passed

6. The president of North Korea recently past away.
   The president of North Korea recently passed away.

personal/personnel

7. What constitutes a personnel question varies from one culture to another.
   What constitutes a personal question varies from one culture to another.

principal/principle

8. The principle is my pal.
   The principal is my pal.
9. All of the teachers agree in principal.
   All of the teachers agree in principle.

quiet/quite

10. The city dweller is always surprised by how quite it is

in the countryside.
The city dweller is always surprised by how quiet it is in the countryside.

11. Contrary to my expectations, I found the people of Boston to be quiet friendly.
Contrary to my expectations, I found the people of Boston to be quite friendly.

than/then

12. She is taller then he.
She is taller than he.
13. If he doesn't accept our proposal, than what should we do?
If he doesn't accept our proposal, then what should we do?

united/untied

14. I represent the Untied Auto Workers Union.
I represent the United Auto Workers Union.
15. When I'm jogging, my shoelaces often come united.
When I'm jogging, my shoelaces often come untied.

weather/whether

16. I'm going swimming weather or not the sun is shining!
I'm going swimming whether or not the sun is shining!.
17. Everybody talks about the whether, but nobody does anything about it.
Everybody talks about the weather, but nobody does anything about it.

KK. SPLIT INFINITIVE

Not recommended:

1. I had failed to, for some reason, notice him.
I had failed, for some reason, to notice him.
2. He likes to occasionally play billiards.
He occasionally likes to play billiards.

OK:

3. He decided to really read the books he had only skimmed.

LL. SPLIT WORDS

any more

1. I refused to accept anymore advice from that lawyer.
I refused to accept any more advice from that lawyer.
2. I don't go there any more.
I don't go there anymore.

can not

3. I can not understand such a complicated treatise.
I cannot understand such a complicated treatise.

every one

4. Every one who wishes to make a contribution to society does not have to be a leader; a lot of conscientious followers are needed.
   Everyone who wishes to make a contribution to society does not have to be a leader; a lot of conscientious followers are needed.
5. When the package arrived, everyone of the glasses was broken.
   When the package arrived, every one of the glasses was broken.

off shore

6. What's your opinion about off shore drilling for oil?
   What's your opinion about offshore drilling for oil?
7. The small boat was drifting aimlessly just offshore.
   The small boat was drifting aimlessly just off shore.

some one

8. Some one up there likes me.
   Someone up there likes me.

what ever

9. I'll pay you what ever you think your time is worth.
   I'll pay you whatever you think your time is worth.

with out

10. Superman flies with out visible means of support.
    Superman flies without visible means of support.

MM. SUBJECT-VERB AGREEMENT

The verb must agree with the subject in number and person.

1. Julie have three sisters.
   Julie has three sisters.
2. Do Julie have three sisters?
3. Do Julie has three sisters?
4. Does Julie has three sisters?
   Does Julie have three sisters?
5. Although Julie have three sisters, Michelle has three brothers.
6. Although Julie have three sisters, Michelle have three brothers.
   Although Julie has three sisters, Michelle has three brothers.
7. The boys has one younger sister.
   The boys have one younger sister.
8. Does the boys have one younger sister?
9. Do the boys has one younger sister?
10. Does the boys has one younger sister?
    Do the boys have one younger sister?

11. I works for the telephone company.
    I work for the telephone company.
12. Does I start work tomorrow morning?
13. Does I starts work tomorrow morning?
    Do I start work tomorrow morning?
14. I work for the telephone company, but I wants to quit.
15. I works for the telephone company, but I wants to quit.
    I work for the telephone company, but I want to quit.

Use a singular verb with non-count nouns.

16. Milk are very nutritious.
    Milk is very nutritious.
17. Are milk as nutritious as yoghurt?
    Is milk as nutritious as yoghurt?
18. Although milk are nutritious, juice is more popular.
19. Although milk are nutritious, juice are more popular.
    Although milk is nutritious, juice is more popular.

Don't confuse subjects with objects of prepositions.

20. Each of them are distinct.
    Each of them is distinct.
21. The suggestions in his proposal has merit.
    The suggestions in his proposal have merit.

The following prepositional expressions do not change a singular subject to a plural subject: with, along with, together with, as well as, in addition to, besides.

22. Yoshiko, with her best friends, play tennis every week.
    Yoshiko, with her best friends, plays tennis every week.
23. Ralph, along with his employees, attend the meetings regularly.
    Ralph, along with his employees, attends the meetings regularly.
24. Ralph, together with his employees, attend the meetings regularly.
    Ralph, together with his employees, attends the meetings regularly.
25. Ralph, as well as his employees, attend the conference once a month.
    Ralph, as well as his employees, attends the conference once a month.
26. Ralph, in addition to his employees, attend the conference once a month.
    Ralph, in addition to his employees, attends the conference once a month.
27. Do Ralph, as well as his employees, attend the conference once a month?
28. Does Ralph, as well as his employees, attends the conference once a month?
29. Do Ralph, as well as his employees, attends the conference once a month?
    Does Ralph, as well as his employees, attend the

conference once a month?

30. Are Ralph, as well as his employees, attending the conference next month?
    Is Ralph, as well as his employees, attending the conference next month?

The verb must match the true subject in sentences or clauses that begin with the following: there, here, who, where, what, which, how.

31. There are, according to reports, some doubt about the outcome.
    There is, according to reports, some doubt about the outcome.
32. Here comes the drinks you ordered.
    Here come the drinks you ordered.
33. What is your names?
    What are your names?
34. How has your parents been lately?
    How have your parents been lately?
35. Who does you want to meet next?
    Who do you want to meet next?
36. Where is the guests going after the party?
    Where are the guests going after the party?
37. Which are more delicious, cake or ice cream?
    Which is more delicious, cake or ice cream?

Use a plural verb when two or more subjects are joined by "and", except when they come after "every" or "each".

38. Biff, Butch, Spike, and I am scout leaders.
    Biff, Butch, Spike, and I are scout leaders.
39. Every man, woman, and child need love.
    Every man, woman, and child needs love.
40. Each book and magazine are listed in the on-line catalog.
    Each book and magazine is listed in the on-line catalog.

Use a singular verb if two subject nouns refer to the same person or thing.

41. My best friend and college roommate are arriving this weekend.
    My best friend and college roommate is arriving this weekend.
42. Richard, my best friend and college roommate, are arriving this weekend.
    Richard, my best friend and college roommate, is arriving this weekend.

Plural subjects joined by "or" take the singular form of a verb.

43. Either Sally or Sheila are in charge.
    Either Sally or Sheila is in charge.

For the following conjunctions, the verb should agree with the subject closest to it.
[or, nor, either/or, neither/nor, not (only)/but (also)]

44. Mrs. Jones or the children is bringing the boxes.
    Mrs. Jones or the children are bringing the boxes.
45. The children or Mrs. Jones are bringing the boxes.
    The children or Mrs. Jones is bringing the boxes.
46. Either Mrs. Jones or the children is bringing the boxes.
    Either Mrs. Jones or the children are bringing the boxes.
47. Either the children or Mrs. Jones are bringing the boxes.
    Either the children or Mrs. Jones is bringing the boxes.
48. Neither Mrs. Jones nor the children likes ice cream.
    Neither Mrs. Jones nor the children like ice cream.
49. Neither the children nor Mrs. Jones like ice cream.
    Neither the children nor Mrs. Jones likes ice cream.
50. Not only the athletes but also the trainer run five miles daily.
    Not only the athletes but also the trainer runs five miles daily.
51. Not only the trainer but also the athletes runs five miles daily.
    Not only the trainer but also the athletes run five miles daily.

Don't confuse subject and object of copula.

52. The joy of his life are his children.
    The joy of his life is his children.

Use a singular verb when a gerund construction is the subject.

53. Cooking your own meals are creative and satisfying.
    Cooking your own meals is creative and satisfying.

Pronouns

Always singular--
he, she, it, another, anybody, anyone, anything
each, every, each one, everybody, everyone, everything
either, neither, nobody, no one, nothing, one
somebody, someone, something,
whatever, whichever, whoever

54. He like to read detective stories in class.
    He likes to read detective stories in class.
55. He, it has been rumored, like to read detective stories in class.
    He, it has been rumored, likes to read detective stories in class.
56. It operate perfectly well.
    It operates perfectly well.
57. It almost always operate perfectly well.
    It almost always operates perfectly well.

58. One student is from Japan, and another are from China.
    One student is from Japan, and another is from China.
59. One student is from Japan, and another, I believe, are from China.
    One student is from Japan, and another, I believe, is from China.
60. Find out if anybody want to go with us.
    Find out if anybody wants to go with us.
61. Find out if anybody really want to go with us.
    Find out if anybody really wants to go with us.
62. Find out if anyone want to go with us.
    Find out if anyone wants to go with us.
63. Anything seem better than this.
    Anything seems better than this.
64. Anything, especially fresh vegetables, seem better than this.
    Anything, especially fresh vegetables, seems better than this.
65. Each manage to complete his or her assignments on time.
    Each manages to complete his or her assignments on time.
66. Each, though working odd hours, manage to complete his or her assignments on time.
    Each, though working odd hours, manages to complete his or her assignments on time.
67. Each one manage to complete his or her assignments on time.
    Each one manages to complete his or her assignments on time.
68. Each one, though working odd hours, manage to complete his or her assignments on time.
    Each one, though working odd hours, manages to complete his or her assignments on time.
69. Everybody manage to complete his or her assignments on time.
    Everybody manages to complete his or her assignments on time.
70. Everybody, though working odd hours, manage to complete his or her assignments on time.
    Everybody, though working odd hours, manages to complete his or her assignments on time.
71. Everyone manage to complete his or her assignments on time.
    Everyone manages to complete his or her assignments on time.
72. Everyone, though working odd hours, manage to complete his or her assignments on time.
    Everyone, though working odd hours, manages to complete his or her assignments on time.
73. Neither manage to complete the assignments on time.
    Neither manages to complete the assignments on time.
74. Neither, though working long hours, manage to complete

the assignments on time.
Neither, though working long hours, manages to complete the assignments on time.

75. Nobody manage to complete the assignments on time.
Nobody manages to complete the assignments on time.

76. Nobody, though working long hours, manage to complete the assignments on time.
Nobody, though working long hours, manages to complete the assignments on time.

77. No one manage to complete the assignments on time.
No one manages to complete the assignments on time.

78. No one, though working long hours, manage to complete the assignments on time.
No one, though working long hours, manages to complete the assignments on time.

79. Somebody manage to complete the assignments on time.
Somebody manages to complete the assignments on time.

80. Somebody, though working odd hours, manage to complete the assignments on time.
Somebody, though working odd hours, manages to complete the assignment on time.

81. Someone manage to complete the assignments on time.
Someone manages to complete the assignments on time.

82. Someone, though working odd hours, manage to complete the assignments on time.
Someone, though working odd hours, manages to complete the assignments on time.

83. Something are rotten in Denmark.
Something is rotten in Denmark.

84. Something, I believe, are rotten in Denmark.
Something, I believe, is rotten in Denmark.

85. Whoever wish to leave may do so.
Whoever wishes to leave may do so.

86. Whatever make you think such terrible thoughts?
Whatever makes you think such terrible thoughts?

87. Whatever, I ask you, make you think such terrible thoughts?
Whatever, I ask you, makes you think such terrible thoughts?

88. Whichever work best will be fine.
Whichever works best will be fine.

Always plural--
we, they, both, few, others, several, these, those

89. We enjoys cooking our own meals.
We enjoy cooking our own meals.

90. We, as you know, enjoys cooking our own meals.
We, as you know, enjoy cooking our own meals.

91. They intends to participate in the rally.
They intend to participate in the rally.

92. They, much to my surprise, intends to participate in the rally.

They, much to my surprise, intend to participate in the rally.

93. Both is out of order.
Both are out of order.

94. Both, unless I am mistaken, is out of order.
Both, unless I am mistaken, are out of order.

95. Few has ventured this far.
Few have ventured this far.

96. Few, because of the extreme cold, has ventured this far.
Few, because of the extreme cold, have ventured this far.

97. Others has also failed.
Others have also failed.

98. Others, due to lack of water, has also failed.
Others, due to lack of water, have also failed.

99. Several hopes to try again in the future.
Several hope to try again in the future.

100. Several, if they can raise the money, hopes to try again in the future.
Several, if they can raise the money, hope to try again in the future.

101. These is better than those.
These are better than those.

102. These, since they are newer, is better than those.
These, since they are newer, are better than those.

103. Those is better than these.
Those are better than these.

104. Those, since they are newer, is better than these.
Those, since they are newer, are better than these.

Singular or plural--
all, any, more, most, none, some

105. Have all of the food been eaten?
Has all of the food been eaten?

106. All of the guests is here.
All of the guests are here.

107. Is any of the drivers available?
Are any of the drivers available?

108. Do any of the wine taste better than this?
Does any of the wine taste better than this?

109. Most of the people wants to stay longer.
Most of the people want to stay longer.

110. Most of the water are not safe for drinking.
Most of the water is not safe for drinking.

111. None of the advice were worthwhile.
None of the advice was worthwhile.

112. None of the companies provides health benefits.
None of the companies provide health benefits.

113. Some of the children adapts better than others.
Some of the children adapt better than others.

114. Some of the music are cacophonous.
Some of the music is cacophonous.

Use a singular verb when a noun clause is the subject.

115. What his employees did when they finished their jobs were of no concern to him.
What his employees did when they finished their jobs was of no concern to him.

Verbs in subjective relative clauses should agree with the main subject. Relative clauses do not change the number or person of the main verb.

116. The boy who are walking the dogs looks friendly.
117. The boy who are walking the dogs look friendly.
The boy who is walking the dogs looks friendly.
118. The children who are near the beach knows how to swim.
119. The children who is near the beach knows how to swim.
The children who are near the beach know how to swim.
120. The children, who knows how to swim, are near the beach.
The children, who know how to swim, are near the beach.

Reduced relative clauses do not change the number or person of the main verb.

121. The boy walking the dogs look friendly.
The boy walking the dogs looks friendly.
122. The children near the beach knows how to swim.
The children near the beach know how to swim.
123. The cabins built last century is still standing.
The cabins built last century are still standing.

Tag endings

124. John and Simon work full time, doesn't they?
John and Simon work full time, don't they?
125. Mary is hungry and so is the boys.
Mary is hungry and so are the boys.
126. She plays tennis but they doesn't.
She plays tennis but they don't.
127. The classrooms and library are open, isn't they?
The classrooms and library are open, aren't they?
128. John and Simon work full time, doesn't he?
John and Simon work full time, don't they?
129. The classrooms and library are open, isn't it?
The classrooms and library are open, aren' they?

Irregular patterns

130. The news are interesting.
The news is interesting.
131. The United States consist of 50 states.
The United States consists of 50 states.
132. Eight hours of sleep are enough.
Eight hours of sleep is enough.
133. Ten dollars are too much to pay.
Ten dollars is too much to pay.
134. A hundred miles are a long way to ride a bicycle.
A hundred miles is a long way to ride a bicycle.

135. The rich gets richer, and the poor pays all the taxes.
The rich get richer, and the poor pay all the taxes.

NN. SUBORDINATION

Subordinating conjunctions--
after, although, as, as if, as soon as, because, before, even though, if, in order to, that, once, provided that, since, so that, though, unless, until, when, whenever, where, whenever, while.

Relative pronouns--
that, which, what, whatever, whichever, who, whoever, whom, whomever, whose

Improper usage of two main verbs

1. The directions had been given to John were easy to follow.
The directions that had been given to John were easy to follow.
2. The naturalist observed the animals took many notes.
The naturalist who observed the animals took many notes.
3. Mrs. Stone's occupation is teaching computer science spoke about the commercial aspects of computers.
Mrs. Stone, whose occupation is teaching computer science, spoke about the commercial aspects of computers.

Subject omission

4. When Jeff is assigned his new post, will leave immediately for Africa.
When Jeff is assigned his new post, he will leave immediately for Africa.
5. As soon as the cable car reached the summit, descended again to the floor of the canyon.

Misplacement of relative clause

6. Customers were disappointed who had patronized the store for several years when it went out of business.
Customers who had patronized the store for several years were disappointed when it went out of business.

Past participles after time words

7. Whenever went out, she locked the door.
Whenever going out, she locked the door.
8. Since came to the United States, she has been living with her cousin.
Since coming to the United States, she has been living with her cousin.

If a dependent clause begins a sentence, treat it as an

introductory phrase, and use a comma. If the dependent clause is in the second half of the sentence, don't use a comma.

9. Whenever the phone rings the dog barks.
   Whenever the phone rings, the dog barks.
10. The dog barks, whenever the phone rings.
    The dog barks whenever the phone rings.

00. TENSE SHIFT

Tenses in tag endings must agree with tense in preceding clause.

1. Kate works full time, didn't she?
   Kate works full time, doesn't she?
2. John could play the piano and so can Mary.
   John could play the piano and so could Mary.
2. Those flowers are fragrant, weren't they?
   Those flowers are fragrant, aren't they?
3. Her daughter was home but her son isn't.
   Her daughter was home but her son wasn't.

Tense agreement between clauses in complex/compound sentences

4. I washed my hair and I write a letter to my sister.
   I washed my hair and I wrote a letter to my sister.
5. The preliminary report is concise, but the recommendations on page three needed more elaboration.
   The preliminary report is concise, but the recommendations on page three need more elaboration.
6. As soon as Victor arrived, he rents a car.
   As soon as Victor arrived, he rented a car.
7. He'll telephone them when he'll arrange his schedule.
   He'll telephone them when he arranges his schedule.
8. Columbus had to wait seven years before he receives ships and supplies.
   Columbus had to wait seven years before he received ships and supplies.
9. Consumers are interested in solar energy because they wanted to save fuel costs.
   Consumers are interested in solar energy because they want to save fuel costs.
10. A detour has been posted so that cars would not travel over the rough road.
    A detour has been posted so that cars will not travel over the rough road.
11. Peter didn't like his job; therefore, he quits.
12. Transportation facilities improved if the bill is passed.
    Transportation facilities will improve if the bill is passed.
13. He should get some sleep or else he fell asleep in class.

He should get some sleep or else he'll fall asleep in class.

14. He had a philosophical outlook; that is, he accepts life as it is.
    He has a philosophical outlook; that is, he accepted life as it is.
15. Smith throws a long pass to Jones who ran until he scores a touchdown.
    Smith throws a long pass to Jones who runs until he scores a touchdown.
16. You must go to several shops to compare prices before you bought anything.
    You must go to several shops to compare prices before you buy anything.

Sequence of tenses in noun clauses

17. The artist said that he usually uses watercolors.
    The artist said that he usually used watercolors.
18. The artist said that he is using watercolors.
    The artist said that he was using watercolors.
19. The artist said that he has used watercolors.
    The artist said that he had used watercolors.
20. The artist said that he will use watercolors.
    The artist said that he would use watercolors.
21. The artist said that he is going to use watercolors.
    The artist said that he was going to use watercolors.
22. The artist said that he can use watercolors.
    The artist said that he could use watercolors.
23. The artist said that he may use watercolors.
    The artist said that he might use watercolors.
24. The artist said that he must use watercolors.
25. The artist said that he has to use watercolors.
    The artist said that he had to use watercolors.

PP. VERB FORMS

Progressive tenses

1. The members of the group are play tennis right now.
2. The members of the group playing tennis right now.
   The members of the group are playing tennis right now.
3. The members of the group were play tennis until now.
4. The members of the group playing tennis until now.
5. The members of the group were played tennis until now.
   The members of the group were playing tennis until now.
6. The members of the group will be play tennis tomorrow.
7. The members of the group will playing tennis tomorrow.
   The members of the group will be playing tennis tomorrow.
8. I am understanding your point of view.
   I understand your point of view.
9. I am appreciating all you are doing for me.

I appreciate all you are doing for me.
10. He is owning three houses.
    He owns three houses.
11. This food is tasting delicious.
    This food tastes delicious.
12. She is seeming to be a very generous person.
    She seems to be a very generous person.

Perfect tenses

13. The guest of honor already eaten.
14. The guest of honor has already ate.
15. The guest of honor has already eating.
    The guest of honor has already eaten.
16. They are in the same class the past three years.
    They have been in the same class the past three years.
17. I didn't eat anything since Monday.
    I haven't eaten anything since Monday.
18. He has the longest nose I ever saw.
    He has the longest nose I have ever seen.
19. I have ever been to Disneyland many times.
    I have been to Disneyland many times.
20. In what year have you begun to study law?
    In what year did you begin to study law?
21. We had already eat when they arrived.
22. We had already ate when they arrived.
23. We had already eating when they arrived.
    We had already eaten when they arrived.
24. We will already eaten when they arrive.
25. We will have already eat when they arrive.
26. We will have already ate when they arrive.
27. We will have already eating when they arrive.
    We will have already eaten when they arrive.

Perfect progressive tenses

28. I have been study since this morning.
29. I been studying since this morning.
30. I have studying since this morning.
31. I was studying since this morning.
32. I am studying since this morning.
    I have been studying since this morning.
33. I had been study for three hours.
34. I had studying for three hours.
    I had been studying for three hours.
35. I will have been study for three hours.
36. I will been studying for three hours.
37. I will have studying for three hours.

Past tense

38. Jim rung the doorbell five times.
    Jim rang the doorbell five times.

Modals

39. The teacher must to correct our papers.
    The teachers must correct our papers.
40. I ought to saving some money.
41. I ought to be save some money.
    I ought to be saving some money.
42. They maybe eating dinner now.
    They may be eating dinner now.

Past tense for modals

43. John may have forgot to pay the rent yesterday.
44. John may have forget to pay the rent yesterday.
45. John may forgotten to pay the rent yesterday.
    John may have forgotten to pay the rent yesterday.

Causatives

46. My parents let me to stay up late.
    My parents let me stay up late.
47. My parents made me to go to bed early.
    My parents made me go to bed early.
48. I got my parents help me with my homework.
    I got my parents to help me with my homework.
49. I had my brother to carry my suitcase.
    I had my brother carry my suitcase.
50. I hired an architect design my new house.
    I hired an architect to design my new house.
51. I got my shoes to shined downtown.
    I got my shoes shined downtown.

Passive voice

52. This cake was make by mother.
    This cake was made by mother.
53. The test which the students took yesterday had prepared by the Educational Testing Service.
    The test which the students took yesterday was prepared by the Educational Testing Service.
54. Chinese spoken in Taiwan.
    Chinese is spoken in Taiwan.
55. Suddenly, the book was fallen from the shelf.
    Suddenly, the book fell from the shelf.
56. Stella is agreed with Anthony that a hearing should be held.
    Stella agrees with Anthony that a hearing should be held.

Transitive/intransitive

57. The student rose his hand.
    The student raised his hand.
58. The sun raises in the east.
    The sun rises in the east.
59. I want to set in the front row.
    I want to set in the front row.
60. I will sit the vase on the table.

I will set the vase on the table.
61. I am lying the book on the desk.
I am laying the book on the desk.
62. She is laying on the sofa.
She is lying on the sofa.
63. I want to compete him in the chess tournament.
I want to compete with him in the chess tournament.
64. I didn't take with me.
I didn't take anything with me.

APPENDIX B

ERROR PATTERNS OF SAMPLE SENTENCES AND RESULTS FOR EACH PROGRAM

A. ADJECTIVES/ADVERBS

G/C/R

Adjectives used instead of adverbs:

1. works + ADJ.....O/O/M
2. (IC) works + ADJ + if.....O/O/M
3. (IC) works + ADJ ¦ (DC) is + ADJ + PAST PART REG V.....O/O/M
   M/M/M

Adverbs used instead of adjectives:

4. ART + ADV + N.....O/M/O
5. DC ¦ (IC) ART + ADV + N.....O/M/O
6. (DC) ART + ADV + N ¦ (IC) ART + ADV + N.....O/M/M
   O/M/O
7. NOUN + ADJ.....M/M/M
8. DC ¦ (IC) NOUN + ADJ.....M/M/M
9. (DC) NOUN + ADJ ¦ (IC) NOUN + ADJ.....O/M/M
   M/M/M

Usual word order (number, description, size, color type, material

10. NUMBER + COLOR + TYPE + MATERIAL + SIZE + DESCRIPTION.....M/S/O

Avoid splitting verb phrases by putting adverb phrases within them.

11. MODAL + ADV + VERB.....M/M/M
12. (IC) MODAL + ADV + VERB ¦ DC.....M/M/M
13. (IC) MODAL + ADV + VERB ¦ (DC) MODAL + ADV + VERB.....M/M/M

C. ARTICLES

Use 'a' before consonant sounds; an before vowels.

1. a + VOWEL.....O/O/O
2. IC ¦ (DC) a + VOWEL .....O/O/O
3. (IC) a + VOWEL ¦ (DC) a + VOWEL.....O/O/O
   O/O/O
4. an + CONSONANT.....O/O/O
5. IC ¦ CONJ ¦ (IC) an + CONSONANT .....O/O/O
6. (IC) an + CONSONANT ¦ CONJ ¦ (IC) an + CONSONANT.....O/O/O
   O/O/O
7. a + SILENT h.....O/O/O
8. DC ¦ (IC) a + SILENT h.....O/O/O
9. (DC) a + SILENT h ¦ (IC) a + SILENT h.....O/O/O
   O/O/O
10. an + CONSONANT U.....O/O/O
11. IC ¦ CONJ ¦ (IC) an + CONSONANT u.....O/O/O
12. (IC) an + CONSONANT U ¦ CONJ ¦ (IC) an

+ CONSONANT U.....O/O/O
O/O/O

'a'--indefinite article/ 'the'--definite article

Mass vs. Count

13. an + MASS N.....O/M/M
14. DC ¦ (IC) an + MASS N.....O/M/M
15. (DC) an + MASS N ¦ (DC) an + MASS N.....O/M/M
O/M/M

Singular/plural

16. a + PL N.....O/O/
17. (IC) a + PL N + DC.....O/O/O
18. (IC) a + PL N ¦ (DC) a + PL N.....O/O/O
O/O/O

Special or Specific reference

19. an + only + NP.....M/M/M
20. DC ¦ (IC) an + only + NP.....M/M/M
21. (DC) an + only + NP ¦ (IC) an + only + NP.....M/M/M
M/M/M

General reference

22. 0 ART + ADJ + N.....O/M/M
23. the + ADJ + N.....M/M/M
24. IC ¦ CORR CONJ ¦ (IC) 0 ART + ADJ + N.....O/M/M
25. (IC) 0 ART + ADJ + N ¦ CORR CONJ ¦ (IC) O ART
+ ADJ + N.....O/M/M
0/M/M

26. (IC) the + ADJ + N + ADV ¦ CORR CONJ
¦ (IC) have + N + V + the + ADJ + N.....M/M/M
M/M/M

Superlatives

27. a + most.....X/X/M
28. DC ¦ (IC) a + most.....X/X/M
29. (DC) a + most ¦ (IC) a + most.....O/X/M
X/X/M

Ordinal numbers

30. a + ORDINAL.....M/M/M
31. IC ¦ CONJ ¦ (IC) a + ORDINAL.....M/M/M
32. (IC) a + ORDINAL ¦ CONJ ¦ (IC) a + ORDINAL .....M/M/M
M/M/M

Names of countries/states

33. the + France.....O/M/
34. (DC) the + France ¦ IC.....O/M/M
35. (DC) the + France ¦ (IC) the + Germany.....O/M/M
M/M/M

36. 0 ART + United States.....M/M/M
37. DC ¦ (IC) 0 ART + United States.....M/M/M

38. (DC) 0 ART + Netherlands ¦ (IC) O ART + United States.....O/M/M
M/M/M

Bodies of Water

39. 0 ART + Mississippi + River.....M/M/M
40. a + Mississippi + River.....M/M/M
41. (IC) 0 ART + Mississippi + River ¦ CONJ ¦ IC.....M/M/M
42. (IC) 0 ART + Mississippi + River ¦ CONJ ¦ (IC) 0 ART + Missouri + River.....M/M/M
M/M/M
43. (IC) a + Mississippi + River ¦ CONJ ¦ (IC) a + Missouri + River.....M/M/M
M/M/M
44. the + Lake Superior.....M/M/M
45. IC ¦ CONJ ¦ (IC) the + Lake Superior.....M/M/M
46. (IC) The + Lake Superior ¦ CONJ ¦ (IC) the + Lake Ontario.....M/M/M
M/M/M

Universities

47. the + Harvard Univeristy.....M/M/M
48. DC ¦ (IC) the + Harvard Univeristy.....M/M/M
49. (DC) the + Yale University ¦ (IC) the + Harvard University.....M/M/M
M/M/M
50. 0 ART + University + of + Oregon.....M/M/M
51. DC ¦ (IC) 0 ART + University + of + Oregon.....M/M/M
52. (DC) 0 ART + University + of + Washington ¦ (IC) 0 ART + University + of + Oregon.....M/M/M
M/M/M

Games

53. a + GAME.....M/M/M
54. the + GAME.....M/M/M
55. (IC) a + GAME ¦ CONJ ¦ IC.....M/M/M
56. (IC) a + GAME ¦ CONJ ¦ (IC) a + GAME.....M/M/M
57. (IC) the + GAME ¦ CONJ ¦ IC.....M/M/M
58. (IC) the + GAME ¦ CONJ ¦ (IC) the + GAME.....M/M/M
M/M/M

Regularly attended places

59. the + work.....M/M/M

One or more of a countable group

60. NUMBER + of + 0 ART + PL N.....O/M/M
61. (DC) NUMBER + of + 0 ART + PL N ¦ IC.....O/M/M
62. (DC) NUMBER + of + 0 ART + PL N ¦ (IC) NUMBER + of + 0 ART + PL N.....0/M/M
X/M/M

Time references

63. in + 0 ART + future.....M/M/M

64. (IC) in + 0 ART + future ¦ CONJ ¦ IC.....M/M/M
65. (IC) in + 0 ART + future ¦ CONJ ¦ (IC) + in + 0 ART + next few years.....M/M/M
M/M/M
66. in + the + past times.....M/M/M
67. (DC) in + the + past times ¦ IC ¦ CONJ ¦ IC.....M/M/M
68. (DC) in + the + past times ¦ IC ¦ CONJ ¦ (IC) in + the + future times.....M/M/M
M/M/M

D. CAPITALIZATION

First word of each sentence.
People's names, places, countries
languages, particular buildings, landmarks
names of days and months
titles of people
titles of works
Acronyms
salutation and closing of a letter

(1) MONTH.....O/O/M
(2) DAY.....O/O/M
(3) SALUTATION.....M/M/M
(4) NAME OF PERSON.....O/O/M
(5) SENTENCE INIT.....O/O/O
(6) COUNTRY NAME.....M/M/O
(7) LANGUAGE.....O/O/M
(8) UNIVERSITY NAME.....0/O/O
X/X/M
(9) BUILDING NAME.....X/X/X
X/M/M
(10)TITLE OF PERSON.....O/O/O
(11)TITLE OF BOOK.....M/M/M
(12) ACRONYNM.....O/O/X
(13) GEOGRAPHIC LOCATION.....O/O/X
X/M/M
(14) LETTER CLOSING.....M/M/M

E. CLICHES

F. COLLOQUIALISMS
1. off the wall.....O/M/M
2. not about to.....M/O/M

G. COMMA SPLICE, FUSED SENTENCE

1. IC + , + O CONJ + IC.....O/S/M
2. IC + 0 PUNC + 0 CONJ + IC.....M/S/M
3. IC + , + SENT CONNECTOR + , + IC.....M/S/M

4. IC + 0 PUNC + SENT CONNECTOR + 0 PUNC + IC.....O/S/M

H. COMMONLY CONFUSED WORDS

accept/except

1. except/accept.....O/M/O
2. accept/except.....O/O/M

advert/avert

3. advert/avert.....O/M/X
4. avert/advert.....M/M/M

affect/effect

5. affect/effect.....O/O/O
6. effect/affect.....O/O/O

I. COMPARATIVE/SUPERLATIVE

Double comparatives--- "more better"
Double superlatives--- "bestest"

1. more + ADJ -ER.....O/O/O
2. (DC) more + ADJ -ER ¦ IC.....O/O/O
3. (DC) more + ADJ -ER ¦ (IC) more + ADJ -ER.....O/O/O
   O/O/O
4. most + ADJ -EST.....O/O/O
5. (IC) most + ADJ -EST ¦ CONJ ¦ IC.....O/O/O
6. (IC) most + ADJ -EST ¦ CONJ ¦ (IC) + most + ADJ -EST.....O/O/O
   O/O/M
7. leastest.....O/O/O
8. (IC) leastest ¦ DC.....O/O/O
9. (IC) leastest ¦ (DC) leastest.....O/O/O
   O/O/O

use more/most w/three or more syllables

10. 3 SYLL. ADJ -ER.....O/O/O
11. (DC) 3 SYLL. ADJ -ER ¦ IC.....O/O/O
12. (DC) 3 SYLL. ADJ -ER ¦ (IC) 3 SYLL. ADJ -ER.....O/O/O
    O/O/O
13. 3 SYLL. ADJ -EST.....O/O/O
14. (DC) 3 SYLL. ADJ -EST 2 ¦ IC.....O/O/O
15. (DC) 3 SYLL. ADJ -EST ¦ (IC) 3 SYLL. ADJ -EST....O/O/O
    O/O/O

use -er/-est in other situations

16. more + 1 SYLL. ADJ.....M/M/M
17. DC ¦ (IC) more + 1 SYLL. ADJ.....M/M/M
18. (DC) more + 1 SYLL. ADJ ¦ (IC) more + 1 SYLL. ADJ.....M/M/M
    M/M/M

19. more + 2 SYLL. ADJ.....M/M/M
20. DC ¦ (IC) more + 2 SYLL. ADJ.....M/M/M
21. (DC) more + 2 SYLL. ADJ ¦ (IC) more + 2 SYLL. ADJ.....M/M/O
M/M/M
22. most + 2 SYLL. ADJ.....M/M/M
23. DC ¦ (IC) most + 2 SYLL. ADJ.....M/M/M
24. (DC) most + 2 SYLL. ADJ ¦ (IC) most + 2 SYLL ADJ.....M/M/O
M/M/O

Awkward patterns/exceptions

25. formaler.....O/O/O
26. formalest.....O/O/O

Use more/most w/ all adverbs

27. ADV -ER.....O/O/O
28. IC ¦ (DC) ADV -ER.....O/O/O
29. (IC) ADV -ER ¦ (DC) ADV -ER.....O/O/O
O/O/O
30. ADV -EST.....O/O/O
31. IC ¦ (DC) ADV -EST.....O/O/O
32. (IC) ADV -EST ¦ (DC) ADV EST.....O/O/0
O/O/M

Exceptions: hard/harder/hardest, fast/faster /fastest

33. more + hard.....M/M/M
34. DC ¦ (IC) more + fast.....M/M/M
35. (DC) more + hard ¦ (IC) more + fast.....M/M/M
M/M/M
36. most + hard.....M/M/M
37. IC ¦ (DC) most + fast.....M/M/M
38. (IC) most + hard ¦ (DC) most + fast.....M/M/M
M/M/M

Fewer vs. less

39. fewer + MASS NOUN.....O/O/M
40. IC ¦ CONJ ¦ (IC) fewer + MASS NOUN.....O/O/O
41. (IC) fewer + MASS NOUN ¦ CONJ ¦ (IC) fewer + MASS NOUN.....M/O/M
O/O/O
42. less + COUNT NOUN.....O/O/O
43. IC ¦ CONJ ¦ (IC) less + COUNT NOUN.....O/O/O
44. (IC) less + COUNT NOUN ¦ CONJ ¦ (IC) less + COUNT NOUN.....O/O/O
M/O/M

J. CONJUNCTIONS

Coordinating (connect same structures)
and, but,or, nor, for, so, yet
noun and noun (salt and pepper)
verb or verb (win or lose)
adj. but adj. (merciless but just)

Independent Clauses

1. a l t h o u g h + N P + V P , + but.....O/O/M 2. because + NP + VP, + so.....O/M/M

Parallel structure

3. N P + a n d + VP.....M/M/M
4. NP + and + VP.....M/M/M
5. (DC) V INF + and + V PAST PART ¦ (IC) NP + and + VP.....M/M/M M/M/M
6. N, + N, + and + IC.....M/X/X
7. (DC) VP, + VP, + and + IC ¦ (IC) N, + N, + and + IC.....M/S/M M/X/M
8. N, ADJ, and N.....M/M/M
9. DC ¦ (IC) N, + ADJ, + and + N.....M/M/M
10. (DC) ADJ, + ADJ, + and + N ¦ (IC) N, + ADJ, + and + N.....M/M/M M/M/M
11. VP PAST SIMP. + and + VP BASE FORM.....M/X/M
12. DC ¦ (IC) VP PAST SIMP. + and + VP BASE FORM.....M/X/M
13. (DC) VP PAST SIMP. + and + VP BASE FORM ¦ (IC) VP PAST SIMP. + and + VP BASE FORM.....M/M/M M/X/M

Correlative conjunctions

14. Neither + N + VP + nor + N.....M/M/M
15. Neither + N + or + N.....O/M/M
16. Neither + VP + nor + NP.....O/M/X
17. both + NP + and + ADJ + N.....X/X/M
18. both + NP + as well as + NP.....M/M/M
19. either + VP + or + IC.....O/M/M
20. not only + ADJ + but + 0 also + ADJ.....M/M/M
21. not only + VP + but also + NP.....M/X/M
22. whether + N + PRES V-BE + or not + PAST PART.....M/M/M

Subordinating conjunctions (always begin a subordinate clause).

23. N + V-BE + SUB. CONJ. + ADJ.....M/X/M
24. SUB. CONJ. + INTENS. + ADJ.....M/M/M
25. SUB. CONJ. + NP + 0 VP.....M/M/M

K. DOUBLED WORDS

1. that + that.....O/M/O

L. DOUBLE NEGATIVES
w/ no, never, not, none, nothing, hardly, scarcely, barely

1. V-DO + not + V + no.....O/O/X
2. (IC) V-DO + not + V + no ¦ CONJ ¦ (IC) NP + V-DO + not neither.....O/O/X M/O/X
3. can't hardly.....O/O/X
4. Not only ¦ IC ¦ but ¦ (IC) can't hardly.....M/O/M
5. Not only + can't + NP + barely ¦ (IC) can't hardly.....O/M/M M/O/M

M. ELLIPSIS [...]
N. ENDING SENTENCES W/ PREPOSITIONS (SOMETIMES O.K.)

1. of(sentence final).....M/O/O
2. NP + V-BE + ADJ. + INF. + -ED PART. + to.....M/O/M

O. END OF SENTENCE PUNCTUATION (? . !)
1. DECLARATIVE + ? .....M/M/M
2. INTERROGATIVE + ...M/M/O
3. INTEROGATIVE + ?!! .....O/O/M

P. FORMALISMS

Don't begin sentences with a conjunction.
Use "between" when referring to two people or things; "among" when referring to more than two.

1. But (sentence initial).....O/O/O
2. And (sentence initial).....O/M/O
3. between + three + PL N.....M/M/O
4. among + two + PL N.....M/M/M

Dangling modifiers
Implied subject of one clause clashes with the stated subject of another.

5. (DC) SUBORD CONJ + ADV + V -ING, ¦ (IC) STATED SUBJ + IMPLIED SUBJ OF DC + VP.....M/M/M

"Disinterested" ---impartial
"Uninterested" ---not interested

6. disinterested/uninterested.....O/O/O
7. uninterested/disinterested.....O/O/M

"Hopefully" means "with hope", not "I hope"
--use "with hope"

8. hopefully/with hope.....O/O/M

Latin singulars and plurals

9. alumni/alumnus.....O/O/M
10. alumnus/alumna.....M/O/M
11. data/datum.....M/M/M
12. media/medium.....M/M/M

"who" and "whom"
subject object

13. Who/whom.....M/O/M
14. PREP + who/ PREP + whom.....O/O/M

Gender specific language
Job terminology, e.g. fireman, poetess, policeman, Pronoun use and agreement

15. FEMININE -ESS.....O/M/M
M/O/M
16. MASCULINE -ER.....M/M/M
17. every + MASCULINE PRO.....M/M/M
18. Mankind.....O/O/M

Q. HOMONYMS

it's=it is its=possessive

1. Its/It's.....O/O/O
2. it's/its.....M/O/M

their/there/they're

3. there/their.....M/O/M
4. they're/their.....M/O/M

5. there/they're.....O/O/M
6. their/they're.....M/O/M

threw/through

7. through/threw.....X/X/X
8. threw/through.....M/M/M

to/too/two

9
two/to.....O/O/M
10. too/to.....O/O/M
11. to/too.....O/M/M
12. two/too.....M/M/M

13. to/two.....M/O/M
14. too/two.....O/O/O

whose/who's

15. who's/whose.....O/O/O

16. whose/who's.....O/O/M

R. INCOMPLETE SENTENCE

Every sentence must have 1) a subject, 2) a verb, 3) the ability to stand alone.

1. SUBORD CONJ + NP + VP.....O/O/O
2. For example, + GERUND, + GERUND, + and + G E R U N D + NP.....O/O/O
3. (RC) NP + REL PRO + STAT V (think) + V -ING + NP + is + ADJ.....M/M/M

S. INCORRECT VERB FORM

confusion of 'of' for 'have'

1. of/have.....O/O/O
2. (IC) would of ¦ DC.....O/O/O
3. (IC) would of ¦ (DC) would of.....O/O/O
   O/O/O

"if that was" instead of "if that were"

4. If + that + was + NP, + (IC) NP + SUBJ MODAL....O/M/M
5. If + I + was + NP, + (IC) NP + SUBJ MODAL.....O/M/M
6. If + NP + have + NP, + (IC) WH- PRO + S U B J MODAL.....M/M/M

reoccur/recur

7. recurring/reoccurring.....O/M/O

suppose to/supposed to

8. s u p p o s e t o / s u p p o s e d to.....O/O/O

T. INFINITIVE

to + base form *to laughs *to ran *to eaten

1. to + REG V -S.....M/X/M
2. DC ¦ (IC) to + IRREG V -S.....O/O/M
3. (DC) to + REG V -S ¦ (IC) to + IRREG V -S.....M/M/M
   O/O/M

4. to + REG V -ED.....M/M/M
5. DC ¦ (IC) to + SIMP PAST IRREG V.....O/O/O
6. (DC) to + REG V -ED ¦ (IC) to + SIMP PAST IRREG V.....M/M/O
   O/O/O
7. to + SIMP PAST IRREG V.....O/O/M
8. DC ¦ (IC) to + REG V -ED.....M/M/M
9. (DC) to + SIMP PAST IRREG V ¦ (IC) to + REG V -ED.....O/O/O

M/M/M

Infinitive subject w/ singular verb

10. INF SUBJ + PL V.....M/M/M
11. INF SUBJ + PL V.....M/M/M
12. INF SUBJ + PL V.....O/M/M

13. INF SUBJ + PL BE V.....O/M/M

Infinitive vs. gerund

14. enjoy + INF.....O/M/M
15. IC ¦ CONJ ¦ (IC) dislike + INF.....O/M/M
16. (IC) enjoy + INF. ¦ CONJ ¦ (IC) dislike + INF....O/M/M
    O/M/M
17. hope + GERUND.....X/M/M
18. IC ¦ (DC) want + GERUND.....M/M/M
19. (IC) hope + GERUND ¦ (DC) want + GERUND.....X/M/M
    M/M/M

Split infinitives/sometimes o.k.

20. to + ADV + V-BASE.....M/O/O
21. to + PP + V-BASE.....M/O/M

U. NOUN PHRASE

Missing modifier before a noun

1. NP + VP + 0 ART + SING N.....O/M/M
2. IC ¦ (DC) SUBORD CONJ + 0 ART + SING N.....O/M/M
3. (IC) NP + VP + O ART + SING N ¦ (DC) SUBORD CONJ
   + 0 ART + SING N.....O/M/M
   O/M/M

Missing modifier in a compound noun phrase with nouns of a differing number

4. NUMBER >1 + PL N + and + SING N.....M/M/M

Number discrepancy

5. NUMBER >1 + SING N.....O/O/M
6. IC ¦ CONJ ¦ (IC) NUMBER >1 + SING N.....O/O/M
7. (IC) NUMBER >1 + SING N ¦ CONJ ¦ (IC) NUMBER >1
   + SING N.....M/O/M
   O/O/M
8. these + SING. N.....O/O/O
9. DC ¦ (IC) these + SING. N.....O/O/M
10. (DC) these + SING N ¦ (IC) these + SING N.....O/O/O
    O/O/M
11. this + PL. N.....O/O/O
12. IC ¦ CONJ ¦ (IC) this + PL N.....O/O/O

13. (IC) This + PL N ¦ CONJ ¦ (IC) this + PL N.....O/O/O
    O/O/O
14. Those + SING. N.....O/O/O

15. DC ¦ (IC) those + SING N.....O/O/O
16. (DC) those + SING N ¦ (IC) those + SING N.....O/O/O
    O/O/O
17. That + PL N.....X/X/O
18. DC ¦ (IC) that + PL N.....X/X/O
19. (DC) that + PL N ¦ (IC) that + PL N.....M/X/M
    X/X/O
20. a lot of + SING N.....O/M/M
21. IC ¦CONJ¦ (IC) a lot of + SING N.....M/M/M
22. (IC) a lot of + SING N ¦ CONJ ¦
    (IC)a lot of + SING N.....O/M/M
    M/M/M

Scrambled word order

23. ADJ + N + MODIFYING N.....M/M/X

V. NUMBER STYLE

Spell out numbers zero to nine (to ninety-nine in some styles); use figures for larger numbers

1. 7/seven.....O/M/M
2. one hundred seventy-five/175.....M/M/M

Use figures if one or more of the numbers falls outside of the range required by writing style.

3. zero/0.....M/M/X

Spell out any number that begins a sentence or clause.

4. 125/One hundred twenty-five.....M/O/M

Use figures when referring to dates, times, addresses, measurements, fractions, identification numbers, chapters and pages.

5. fourth/4.....M/O/M
6. seven o'clock/7:00.....M/M/M
7. twenty-eight/28.....X/X/M
8. three/3.....M/M/M
9. one third/ 1/3.....M/M/M
10. five-three-one, six-two, four-zero-one-two
    /531-62-4012.....M/M/M

11. chapter three/chapter 3 ¦ page
    seventeen/page 17.....M/M/X

W. PASSIVE VOICE

X. PEJORATIVE TERMS

Y. POSSESSIVE FORM

Words ending in 's' take [s'].

1. 's/s' s's .....O/O/O

Words not ending in 's' take ['s]

2. 0 '/ 's .....O/O/M
3. 0 ', 0 s/ 's .....M/M/M

Possessive pronouns do not take an apostrophe.

4. her's .....M/X/M
5. IC ¦ CONJ ¦ (IC) your's .....O/O/O
6. (IC) her's ¦ CONJ ¦ (IC) your's .....M/M/M
   O/O/O

When two nouns are joined by a conjunction, only the second noun takes and apostrophe.

7. SING N + 's + and + SING N + 's .....O/O/M

Informal Usage

8. N + 's + N + 's + N .....M/O/M

Z. PREPOSITION (idiomatic uses)

1. in accordance to/in accordance.....O/M/M

2. prefer over/prefer to.....O/M/M
3. authority about/authority on.....O/M/O
4. comply to/comply with.....O/M/O
5. take care for/to take care of.....M/M/M
6. absent in/absent from.....M/M/M
7. relevant with/relevant to the topic.....M/M/M

AA. PRONOUN CASE (subjective, objective, possessive)

1. V + NP + PREP + PROP N + SUBJ PRO.....O/O/O
2. OBJ PRO + PROP N + VP.....O/O/O
3. Whomever + VP.....O/M/M
4. NP + whom + VP.....O/O/M
5. NP + who + NP + VP.....O/O/M

Use subject pronouns after linking verbs.

6. This is + OBJ PRO.....O/M/M

Use subject pronouns after "than" or "as".

7. ADJ -ER + than + OBJ PRO.....0/M/M
8. as + ADJ + as + OBJ PRO.....0/M/M

BB. PRONOUN NUMBER AGREEMENT

Problematic usage
"themselves" should not be plural, "himself" is sexist, "himself or herself" is awkward

1. person + AUX + ADV + V + themselves.....O/M/M

2. person + AUX + ADV + V + himself.....O/M/M
3. person + AUX + ADV + V + herself.....O/M/M
4. person + AUX + ADV + V + himself or herself.....O/M/X

Use a plural pronoun for antecedents joined by "and".

5. PROP N + and + PROP N + PL V + his and her.....M/M/O

Use a singular pronoun for antecedents joined by "or".

6. SING N + or + SING N + SING V + PL PRO.....M/M/M

When pronouns joined by "or" or "nor" differ in number or gender, make the pronoun agree with the closest antecedent.

7. Neither + PL N + nor + SING N + SING V + PL PRO..M/M/M
8. Neither + SING N + nor + PL N + PL V + SING PRO..M/M/M

Use singular pronouns for most indefinite pronoun antecedents (someone, anyone, everybody, nobody).

9. Everyone + SING V + INF + PREP + PL PRO.....M/M/M
10. anyone + V + ADJ + PREP + PL PRO.....M/M/M
11. Everybody + MODAL + BASE V + PL PRO.....M/M/M
12. Nobody + PAST PASSIVE + INF + PL PRO.....M/M/M

Use a singular pronoun when "each" and "every" precede singular nouns joined by "and".

13. Every + SING N + AND + SING N + V + PL PRO.....M/M/M
14. Each + SING N, SING N, + and + SING N + MODAL + BASE V + PL PRO.....M/M/M

Pronoun number in sentence tag should agree with antecedent in main clause.

15. PL N + VP, + doesn't + SING PRO.....M/M/M
16. PROP N + and + PROP N + VP, + doesn't + SING PRO.....M/M/O
17. SING N + is + ADJ, + aren't + SING PRO.....M/M/O
18. I + PERFECT V + NP + ADV, + haven't + PL PRO.....M/M/O

CC. PUNCTUATION

Colon--use only to separate general information from specific.
The general information must be a complete thought, but the specific information does not.

1. NP + BE V + : .....M/M

Use a comma after an introductory word, phrase, or clause.

2. Next + 0, + IC .....M/M
3. Whatever + NP + 0, + IC .....M/M
4. SENT INITI ADV C + 0, + IC .....M/M/M

Use a comma to separate items in a sentence

5. GERUND + 0, + GERUND + 0, + and + GERUND.....M/M/M

Use a comma before a coordinating conjunction when it completes two complete thoughts.

6. IC + 0, + and + IC .....M/M/M
7. IC + 0, + and then + IC .....M/M/M
8. NP, + and + NP .....M/M/M

Use a comma before and after nonessential words and phrases.

9. SUBJ + 0, + ADV PHR + 0, + VP .....M/M/X
10. SUBJ + 0, + APPOSITIVE + 0, + VP .....X/M/X

Use a semicolon to separate two complete thoughts (equivalent to comma plus conjunction).

11. IC; + and + IC .....S/M/M

Use a semicolon to separate items in a series when there is any question where one item ends and another begins.

12. N, + N, + and + N, + N, + N, + and + N, + N, + N, + and + N .....M/M/M

Question mark
Use after direct questions but not indirect ones.

13. REPORTED QUEST + ? .....M/M/M
14. INDIRECT QUEST + ? .....M/M/M

If quoting a question, the question mark belongs inside the second set of quotation marks.
If not part of the quotation, the question mark belongs outside of the second set of quotation marks.
Never use double punctuation.

15. "?--(part of quotation) .....O/O/O
16. ?"? .....O/O/M
17. ?" (not part of quotation) .....M/M/M
18. "DECLARATIVE QUOTE."? .....O/O/M
19 "DECLARATIVE QUOTE,"? .....O/O/M

DD. REDUNDANT USAGE

add on (add)

1. add on .....O/O/X
2. add...on .....M/O/M

join together (join)

3. joined together .....O/M/M
4. joined...together .....M/M/M

past history (past)
5. past history .....O/M/O

recur again (recur)
6. recur again .....O/M/O

red in color (red)
7. red in color .....M/M/O

EE. QUOTATION MARKS

Use with a colon, if first clause is a complete thought.
1. IC: + 0"...0" .....M/M/M
Use with a comma after a verb that implies a 'that' clause
2. V, + 0"...0" .....M/O/M

Use with a "that" after a verb
3. V + that + 0"...0" .....M/M/M

Blending quoted words in with your own--no comma
4. , + " .....M/M/M

Avoid beginning a sentence w/ a quotation.
5. "SENT INIT" .....M/M/M

Place commas and periods inside the second set of quotation marks.
6. "...". .....O/O/O
7. "...". .....O/O/O
Place semicolons and colons outside the second set of quotation marks.
8. "...;" .....O/O/M
9. "... :" 0/O/M

Place exclamation points inside second pair of quotation marks if they are part of the quotation; outside if not.
10. "..."! (part of quotation) .....O/M/O
11. ..."...!" (not part of quotation) .....O/M/M

FF. RELATIVE PRONOUNS

Use 'which' to begin clauses that are not essential to the meaning of a sentence.
1. NP, + that + NP + VP, + VP .....O/M/X

Use 'that' to begin clauses that are essential to the meaning of the sentence.
2. NP + which + NP + VP + VP.....O/O/M

Use 'who' to refer to people in either type of clause

3. PERSON, that + VP, + VP.....**X/M/X**

4. PEOPLE + are + those + that + VP.....M/M/O

nonrestrictive clauses are set off w/ commas; restrictive clauses are not.

5. 0, + NONRESTR + 0, ...M/M/M
6. , + RESTR +, ...O/M/O

GG. RUN-ON SENTENCE (sentence w/ too many conj.)
HH. SECOND PERSON PRONOUN (considered informal)
II. SEQUENCE OF TENSES IN CONDITIONALS

In conditional sentences, always use 'had' in the 'if'clause, if the independent clause contains 'would have'.

1. If + NP + would have + PAST PART + N CLAUSE, + NP + would have + PAST PART.....O/M/M
2. If + NP + PAST PART + N CLAUSE, + NP + would have + PAST PART.....M/M/M
3. NP + would have + PAST PART + NP + if + NP + would have + PAST PART.....O/M/M
4. NP + would have + PAST PART + NP + if + NP + PAST PART.....M/M/M

JJ. SIMILAR WORDS

closest/closet

1. closet/closest.....M/M/M
2. closest/closet.....M/M/M

farther/further

3. farther/further.....X/O/M

form/from

4. form/from.....X/O/M
5. from/form.....M/M/M

past/passed

6. past/passed.....M/X/X

personal/personnel

7. personnel/personal.....M/O/M

principal/principle

8. principle/principal.....O/O/M
9. principal/principle.....O/O/M

quiet/quite

10. quite/quiet.....M/M/M

11. quiet/quite.....X/M/M

than/then

12. then/than.....M/O/O
13. than/then.....X/M/M

united/untied

14. Untied/United.....M/M/M
15. united/untied.....M/M/M

weather/whether

16. weather/whether.....M/M/M
17. whether/weather.....X/M/O

KK. SPLIT INFINITIVE

LL. SPLIT WORDS

any more

1. anymore/any more.....O/O/M
2. any more/anymore.....O/M/M

can not

3. can not/cannot.....O/M/O

every one

4. Every one/Everyone.....O/M/M
5. everyone/every one.....M/O/X

off shore

6. off shore/offshore.....M/M/O
7. offshore/off shore.....O/M/M

some one

8. Some one/Someone.....O/O/M

what ever

9. what ever/whatever.....M/M/M

with out

10. with out.....M/O/M

MM. SUBJECT-VERB AGREEMENT

The verb must agree with the subject in number and person.

1. SING SUBJ + PL V.....O/O/O
2. Do + SING SUBJ.....O/O/M
3. Do + SING SUBJ + V -S.....O/O/M
   O/O/M
4. Does + SING SUBJ + V -S.....M/O/M
5. (DC) SING SUBJ + PL V.....O/O/M

6. (DC) SING SUBJ + PL V ¦ (IC) SING SUBJ + PL V....O/O/M
O/O/M
7. PL SUBJ + V -S.....O/O/M
8. Does + PL SUBJ.....O/O/M
9. Do + PL SUBJ + V -S.....O/O/M
10. Does + PL SUBJ + V -S.....O/O/M
O/O/M
11. I + V -S.....O/O/M
12. Does + I.....M/M/M
13. Does + I + V -S.....M/M/M
O/M/M
14. IC ¦ CONJ ¦ (IC) I + V -S.....O/O/O
15. (IC) I + V -S ¦ CONJ ¦ (IC) I + V -S.....O/M/0
O/O/0

Use a singular verb with non-count nouns.

16. NC N + PL V.....O/O/O
17. Are + NC N.....O/O/M
18. (DC) NC N + PL V ¦ IC.....O/O/M
19. (DC) NC N + PL V ¦ (IC) NC N + PL V.....O/O/M
O/M/O

Don't confuse subjects with objects of prepositions.

20. SING SUBJ + PREP + PL PRO + PL V.....O/O/O
21. PL SUBJ + PREP + SING NP + SING V.....O/O/O

The following prepositional expressions do not change a singular subject to a plural subject: with, along with, together with, as well as, in addition to, besides.

22. SING SUBJ + , with + NP, + PL V.....M/M/M
23. SING SUBJ + , along with + NP, + PL V.....O/M/M
24. SING SUBJ + , together with + NP, PL V.....O/O/M
25. SING SUBJ + , as well as + NP, + PL V.....O/O/M
26. SING SUBJ + , in addition to + NP, + PL V.....O/O/M

27. Do + SING SUBJ + , as well as + NP, + BASE V.....O/O/M
28. Does + SING SUBJ + ,as well as + NP, V -S.....M/O/M

29. Do + SING SUBJ + , as well as + NP, + V -S.....M/O/M
M/O/M
30. Are + SING SUBJ + , as well as + NP, V -ING.....O/O/M

The verb must match the true subject in sentences or clauses that begin with the following: there, here, who, where, what, which, how.

31. There + PL V +, according to PL N, + SING SUBJ...M/O/M
32. Here + SING V + PL SUBJ.....O/O/M
33. What + SING V + PL SUBJ.....O/O/O

34. How + SING V + PL SUBJ.....O/O/O
35. Who + V -S + you.....O/O/M
36. Where +SING V + PL SUBJ.....O/O/O
37. Which + PL V + more + ADJ, + SING SUBJ + or + SING SUBJ.....O/O/O

Use a plural verb when two or more subjects are joined by "and", except when they come after "every" or "each".

38. SING SUBJ, + SING SUBJ, + SING SUBJ, + and + I + 1ST PERS SING V.....O/O/M
39. Every + SING SUBJ, + SING SUBJ, + and + SING SUBJ+ PL V.....O/S/O
40. Each + SING SUBJ + and + SING SUBJ + PL V.....O/M/X

Use a singular verb if two subject nouns refer to the same person or thing.

41. SUBJ 1 + and + SUBJ 1 + PL V.....M/M/M
42. SUBJ 1, SUBJ 1 + and + SUBJ 1, + PL V.....O/M/M

Plural subjects joined by "or" take the singular form of a verb.

43. Either + SING SUBJ + or + SING SUBJ + PL V.....O/O/O

For the following conjunctions, the verb should agree with the subject closest to it. [or, nor, either/or, neither/nor, not (only /but (also)]

44. SING SUBJ + or + PL SUBJ + SING V.....O/O/O
45. PL SUBJ + or + SING SUBJ + PL V .....O/O/M
46. Either + SING SUBJ + or + PL SUBJ + SING V.....O/O/M
47. Either + PL SUBJ + or + SING SUBJ + PL V.....O/O/M
48. Neither + SING SUBJ + nor + PL SUBJ + SING V.....O/O/M
49. Neither + PL SUBJ + nor + SING SUBJ + PL V.....O/S/X
50. Not only + PL SUBJ + but also + SING SUBJ + PL V.....M/O/M
51. Not only + SING SUBJ + but also + PL SUBJ + SING V.....M/O/M

Don't confuse subject and object of copula.

52. SING SUBJ + are + PL OBJECT.....X/O/O

Use a singular verb when a gerund construction is the subject.

53. GERUND + PL NP + PL V.....M/M/M

Pronouns

Always singular--
he, she, it, another, anybody, anyone, anything
each, every, each one, everybody, everyone,

everything, either, neither, nobody, no one, nothing, one, somebody, someone, something, whatever, whichever, whoever

54. He + PL V.....M/O/O
55. He + ,NP + VP, + PL V.....M/O/M
56. It + PL V.....O/O/O
57. It + ADV + PL V.....O/O/O

58. another + PL V.....O/O/M
59. another + ,NP + VP, + PL V.....M/O/M
60. anybody + PL V.....O/O/M
61. anybody + ADV + PL V.....O/O/M
62. anyone + PL V.....O/O/M
63. Anything + PL V.....O/O/M
64. Anything + , ADV + ADJ + PL N, + PL V.....O/O/M
65. Each + PL V.....O/O/O
66. Each + , ADV PHR, + PL V.....O/O/M
67. Each one + PL V.....O/O/M
68. Each one + , ADV PHR, + PL V.....O/O/M
69. Everybody + PL V.....O/O/M
70. Everybody + ,ADV PHR, + PL V.....O/O/M
71. Everyone + PL V.....O/O/M
72. Everyone + ,ADV PHR, + PL V.....O/O/M
73. Neither + PL V.....O/M/O
74. Neither + ,ADV PHR, + PL V.....O/M/O
75. Nobody + PL V.....O/O/O
76. Nobody + ,ADV PHR, + PL V.....O/O/M
77. No one + PL V.....O/M/O
78. No one + , ADV PHR, + PL V.....O/M/M
79. Somebody + PL V.....O/O/M
80. Somebody + ,ADV PHR, + PL V.....O/O/M
81. Someone + PL V.....O/O/M
82. Someone + ,ADV PHR, + PL V.....O/O/M
83. Something + PL V.....O/O/O
84. Something + , NP + VP, + PL V.....O/O/M
85. Whoever + PL V.....M/O/M
86. Whatever + PL V.....M/M/M
87. Whatever + , NP + VP, + PL V.....M/M/M
88. Whichever + PL V.....O/M/M

Always plural--
we, they, both, few, others, several, these, those

89. We + SING N.....O/O/O
90. We + ,ADV PHR, + SING V.....O/O/M
91. They + SING V.....O/O/O
92. They + , ADV PHR, + SING V.....O/O/M
93. Both + SING V.....O/O/O
94. Both + , ADV CLAUSE, + SING V.....O/O/M
95. Few + SING V.....M/O/O
96. Few + ,because of + NP, + SING V.....M/O/M

97. Others + SING V.....O/O/O
98. Others + ,due to + NP, + SING V.....O/O/M
99. Several + SING V.....X/M/O
100. Several + ,if + IC, + SING V.....O/O/M
101. These + SING V.....O/O/M
102. These + ,since + NP + VP, + SING V.....O/O/M
103. Those + SING V.....O/O/M
104. Those + ,since + NP + VP, + SING V.....O/O/M

Singular or plural--
all, any, more, most, none, some

105. PL V + all of the + NC N.....O/O/M
106. All of the + PL N + SING V.....O/O/O
107. SING V + any of the + PL N.....M/M/M
108. Do + any of the + NC N.....M/O/M
109. Most + of the + PL N + SING V.....O/O/M
110. Most + of the + NC N + PL V.....O/O/M
111. None + of the + NC N + PL V.....O/M/M
112. None + of the + PL N + SING V.....M/M/M
113. Some + of the + PL N + SING V.....O/O/O
114. Some + of the + NC N + PL V.....O/O/M

Use a singular verb when a noun clause is the subject.

115. NC + PL V.....M/M/M

Verbs in subjective relative clauses should agree with the main subject. Relative clauses do not change the number or person of the main verb.

116. SING SUBJ + (RC) who + PL V.....O/O/M
117. SING SUBJ + (RC) who + PL V + V -ING + NP + PL V.....O/O/M
118. PL SUBJ + (RC) who + PL V + PP + SING V.....O/O/M
119. PL SUBJ + (RC) who + SING V + PP + SING V.....O/O/M
120. PL SUBJ + , (RC) who + SING V, + PL V.....M/O/M

Reduced relative clauses do not change the number or person of the main verb.

121. SING SUBJ + V -ING + PL NP + PL V.....O/M/M
122. PL SUBJ + PREP + SING NP + SING V.....X/O/O
123. PL SUBJ + V -ED + SING NP + SING V.....X/M/M

Tag endings

124. SING SUBJ + and + SING SUBJ + PL V + ADV, + doesn't + PL PRO.....O/O/O
125. SING SUBJ + SING BE V + ADJ + and so + SING BE V + PL SUBJ.....O/M/M
126. SING SUBJ + SING V + NP, + but + PL SUBJ + doesn't.....O/O/O
127. PL SUBJ + and + SING SUBJ + are + ADJ, + isn't + PL PRO.....O/O/O

128. SING SUBJ + and + SING SUBJ + PL V + ADV ,
+ doesn't + SING PRO.....M/M/O
129. PL SUBJ + and + SING SUBJ + are + ADJ,
+ isn't + SING PRO.....M/M/M

Irregular patterns

130. news + PL V.....O/O/O
131. The United States + PL V.....M/O/M
132. NUMBER >1 + hours + PP + PL V.....M/M/M
133. NUMBER >1 + dollars + PL V.....M/M/M
134. A hundred + miles + PL V.....M/M/M
135. The rich + SING V ¦ the poor + SING V.....O/M/O

NN. SUBORDINATION

Subordinating conjunctions--
after, although, as, as if, as soon as, because, before, even though, if, in order to, that, once, provided that, since, so that, though, unless, until, when, whenever, where, whenever, while.

Relative pronouns--
that, which, what, whatever, whichever, who, whoever, whom, whomever, whose

Improper usage of two main verbs

1. NP + 0 REL PRO + VP + PP + VP.....M/M/M
2. NP + 0 REL PRO + VP + VP.....M/M/M
3. POSS + NP + VP + VP / NP, + REL PRO + VP, + VP...X/M/M

Subject omission

4. ADV C, + O SUBJ + VP.....M/ M/M
5. ADV C, + O SUBJ + VP.....M/O/M

Misplacement of relative clause

6. NP + VP + RC / NP + RC + VP.....M/M/M

Past participles after time words

7. Whenever + V -ED.....O/M/M
8. Since + came.....M/X/M

If a dependent clause begins a sentence, treat it as an introductory phrase, and use a comma. If the dependent clause is in the second half of the sentence, don't use a comma.

9. DC + 0 , + IC.....M/X/O
10. IC + , + DC.....M/M/M

OO. TENSE SHIFT

Tenses in tag endings must agree with tense in preceding clause.

1. PRES V + ADV, + didn't.....M/M/X
2. PAST MODAL + BASE VERB + NP + and so
   + PRES MODAL.....M/M/M
3. are + ADJ, + weren't.....M/M/X
4. was + ADV + but + NP + isn't.....M/M/M

Tense agreement between clauses in complex/compound sentences

5. (IC) NP + PRES VP, + but + (IC) Np + PAST VP.....M/M/M
6. (DC) As soon as + NP + PAST V,
   + (IC) NP + PRES V.....M/M/M
7. (IC) SUBJ 1 + will + BASE V + NP + (DC) when
   + SUBJ 1 + will + BASE V.....M/M/M
8. (IC) had to + BASE V + NP, + (DC) before
   + NP + PRES VERB.....M/M/M
9. (IC) PRES BE V + PAST PART + PP + (DC) because
   + PRO + PAST V.....M/M/M
10. (IC) PRES PERF PASSIVE V + (DC) so that + NP
    + PAST MODAL.....M/M/M
11. (IC) didn't + BASE V + NP; + therefore,
    + (IC) NP + PRES V.....M/M/M
12. (IC) NP + PAST V + (DC) if + NP
    + PAST PASSIVE V.....M/M/M
13. (IC) should + BASE V + NP + (DC) or else
    + NP + PAST V.....M/M/M
14. (IC) NP + PAST V + NP; + that is,
    + (IC) NP + PRES V.....M/M/M
15. (IC) NP + PRES V + NP + (RC) who + PAST V
    + ADV + NP + PRES V.....M/M/M
16. (IC) must + BASE V + PP + INF OF PURPOSE
    + (DC) before + PRO + PAST V.....M/M/M

Sequence of tenses in noun clauses

17. said that + NP + ADV + PRES V.....O/M/M
18. said that + NP + PRES PROG V.....O/M/M
19. said that + NP + PRES PERF V.....O/M/M
20. said that + NP + will.....O/M/M
21. said that + NP + is going to + BASE V.....O/M/M
22. said that + NP + can + BASE V.....O/M/M
23. said that + NP + may + BASE V.....O/M/M
24. said that + NP + must + BASE V.....M/M/M
25. said that + NP + has to + BASE V.....O/M/M

PP. VERB FORMS

Progressive tenses

1. are + BASE REG V.....M/M/M
2. 0 are + V -ING.....M/O/M
3. were + BASE V.....M/M/M
4. 0 were + V -ING.....M/O/O
5. were + V -ED + NP.....M/M/M

6. will be + BASE V.....M/M/M
7. will + 0 be + V -ING.....O/M/O
8. am + understanding.....M/M/M
9. am + appreciating all.....O/M/M
10. is + owning.....0/M/M
11. is + tasting.....M/M/M
12. is + seeming.....O/M/M

Perfect tenses

13. 0 has + ADV + PAST PARTICIPLE.....O/O/O
14. has + ADV + PAST SIMPLE IRREG V.....O/O/O
15. has + ADV + V -ING.....M/M/M
16. NP + are + PP + the past three years / NP + have been + PP + the past three years.....M/M/M
17. NP + didn't + BASE IRREG V + NP + since / NP + haven't + PAST PART IRREG V + NP + since...M/M/M
18. 0 have + ever + SIMPLE PAST IRREG V.....M/M/M
19. have + ever + PAST PART BE V.....M/M/M
20. In what year + have + you + PAST PART IRREG V....M/M/M
21. had + ADV + BASE IRREG V.....O/M/O
22. had + ADV + PAST SIMPLE IRREG V.....O/O/M
23. had + ADV + V -ING.....M/M/M
24. will + 0 have + ADV + PAST PART IRREG V.....X/X/M
25. will + have + ADV + BASE IRREG V.....O/M/M
26. will + have + ADV + PAST SIMPLE IRREG V.....O/O/O
27. will + have + ADV + V -ING.....M/M/M

Perfect progressive tenses

28. have + been + BASE V.....M/M/M
29. 0 have + been + V -ING.....M/O/O
30. have + 0 been + V-ING + since.....M/M/M
31. was + V -ING + since.....M/M/M
32. am + V -ING since.....M/M/M
33. had + been + BASE V + for.....M/M/M
34. had + V -ING + for.....M/M/M
35. will + have + been + BASE V.....M/M/M
36. will + 0 have + been + V -ING.....X/X/X
37. will + have + V -ING + for.....M/M/M

Past tense

38. NP + PAST PART IRREG V.....M/O/O

Modals

39. must + INF.....M/M/M
40. ought to + V-ING.....M/M/O
41. ought to + be + BASE V.....M/M/O
42. NP + maybe + V -ING.....M/O/X

Past tense for modals

43. MODAL + have + SIMPLE PAST IRREG V.....O/O/O
44. MODAL + have + BASE IRREG V.....O/M/O
45. MODAL + 0 have + PAST PART IRREG V.....X/X/M

Causatives

46. let + NP + INF.....M/M/M
47. made + NP + ING.....M/M/M
48. got + NP + BASE V.....M/M/M
49. had + NP + INF.....M/M/M
50. hired + NP + BASE V.....X/M/M
51. got + NP + to + V -ED.....M/M/M

Passive voice

52. was + BASE V.....X/M/O
53. had + V -ED + by.....M/M/M
54. NP + 0 BE V + PAST PARR IRREG V.....M/O/O
55. NP + was + PAST PART IRREG V.....M/M/M
56. NP + is + SIMP PAST IRREG V.....O/M/M

Transitive/intransitive

57. rose + NP.....O/O/M
58. NP + raises + PP.....M/O/M
59. set + PP.....M/M/M
60. sit + NP.....O/O/M
61. lying + NP.....O/O/M
62. laying + PP.....M/O/M
63. compete + NP .....O/O/M
64. take + PP.....M/M/M

APPENDIX C

SAMPLE ESSAY USED IN EVALUATION OF PROGRAM ACCURACY

SAMPLE ESSAY USED IN EVALUATION OF PROGRAM ACCURACY

Children will have good health without red meat

When you sit down for a family meal, what's the prime food? Is it hamburgers, a pork or beef steak? Is it broiled, skinless chicken? Or is it a dish of fruit, beans and vegetables? In recent years, health experts have encouraged Americans to change much red meat, too many fat. (O'Neill WH7). In addition school lunches contain too many fat thus our children's health is at risk. (Sackin, B7). In fact diet is connected with people's health. According to U.S. Department of Health and Human Services they reported " Of the 250 million Americans now living, about 75 million will eventually have cancer." (326). According to their statistics there were 337,500 people ____ dead in cancer in 1990 and 550,000 people ___ dead in heart disease in 1990.

Recently, researchers also discover the number of vegetarian teens is growing. They prefer vegetable rather than red meat because of health benefits. (Mathias, D5). In order to grow healthily, children should not eat meat such as beef and pork because of some reasons: First red meat contain much fat and it causes children to gain weight, secondly vegetables and fruits won't _____ affect children's growth and finally high intake red meat may easily have cancer and heart disease.

Several expert question whether is it good if a diet without red meat. Gretchen Hill, associate professor of food science and human nutrition, claimed that a diet without beef and pork will poses risk for kids because red meat is necessary of a source of iron and protein. He also mentioned vegetarians take a big risk if they force their diet on their children. Hill's colleague, Dennis Gordon announces that meat is not only important for the absorption of iron from other foods. He said "Without at least a small amount of meat in your diet, it is almost impossible to achieve good iron nutrition". Yes, those points are right, however, we can eat variety of beans to replace the red meat nutrition. (Adam 28). Adam believes beans are nearly the perfect food: rich _ carbohydrates, iron, protein, fiber and folic acid, ____ containing little or no fat and no cholesterol. They've been found to lower cholesterol, against certain kinds of cancer and normalize blood sugar. For example: lentil, kidney beans, and navy beans are high in iron and protein. (28).

The expert, Dennis Gordon, disagree _____ people whose diet with no red meat. He points out that a diet without red meat nutrition __ such as copper, immunity to illnesses decreases. (12). But according to Webb, food which contain beta-carotene, vitamin c may push up people's immune system because of a maxim _ " An apple a day, keep the doctors away".

There are many people ___ think that it's very hard to

make children only eat beef and pork. It happen not only in children who begin to learn __ walk-toddlers but also _____ school-age children. Yes, sometimes it's tough. However, William Sears thinks that parents can make fresh foods fun. _ _____ Make vegetables and fruit more fun by naming them. For example: _____ serve broccoli " trees ", carrot "wheels", avocado or pear "boats" and apple "half moons". This method is quite useful.(WH8).

The first reason that children shouldn't eat meat is because red meat contain much fat_ and it causes children to gain weight and create health problem. The report announced that kids consume too much saturated fat, which is discovered in red meat. And medical studies have displayed that in your body_ saturated fats push up the level of cholesterol in kids body. (O'Neill WH8). In addition_ Dr. Ronald Kleinman said that if children are in ages two to five, they should change to an adult style diet. And after age five, children, like adult_ should keep blow fat to about 30 percent of caloric intake, because if you are high in caloric intake_ it is easily to cause overweight. And overweight may make kids feel tried easily. (15). Dr. Kleinman also suggested __ parents that they can convinced their children to eat a low animal fat diet. _____ Offer a lot of snake foods - fruits_ popcorn, and in dinner, offer fish and vegetable. These food may let kids have a normal weight.(15).

The second reason that children should eat meat is

because vegetable and fruit won't _____ affect children's growth. On the contrary_ they contain more nutrition than red meat. Mathias believes that if children don't eat red meat_ it won't affect children's growth. She remember one vegetarian teen told her_ "_I feel healthier_ and I don't get any colds and the animal are hormone fed". (Mathias D5). Furthermore_ according to Haederle, she think vegetables and fruits are more nutritious than red meat. As we know_ the most important nutrition of red meat are protein and iron. But fruits and vegetable not only contain protein and iron but also contain a lot of vitamins, folic acid and beta-carotene. These nutrition also play an important role in humans body. (E1). More over they report about American eating habits came from a group called the Physicians committee for Responsible Medicine. What they had to show may surprise some people. They suggest changing the four basic food groups that people have heard about. The new diet include: 1. fruits 2. legumes 3. grains and 4. vegetables. You perhaps noticed what's missing from this list:___red meat (beef and pork), because they think _____ without meat won't affect children's healthy. They also said that children should decrease the amount of meat they eat and eat lots of fish, grains, breads, cereals and legumes, like peas, beans and lentils. These group of food are rich in protein and iron and con help kids grow healthily. (O'Neill WH 18)

The third reason that children shouldn't eat meat is

because if children eat too much red meat, they may easily have cancer and heart disease when they grow older. According to O'Neill, Experts from the National Cholesterol Education Program suggested that children over age 2 have a low-fat, low-cholesterol diet to forestall heart disease later in life. Heart disease is the number ____ killer in the United States. O'Neill believes red meat is rich in fat and cholesterol_ and O'Neill found something good that _ decrease on saturated fats and cholesterol can help kids avoid heart attacks and other heart problems when they grow up because cholesterol clogs people's blood vessels and causes heart disease. (WH8).

Also, according to E.Bishop_ "fat in the diet-especially animal fat-is linked to prostate cancer. The reason is that scientists think dietary fat can affect the body's levels of sex hormones, perhaps raising levels of the male sex hormone, therefore, push up the risk of prostate cancer. The recent statistics of 22,000 male physicians showed " men who ate beef or pork as a prime dish five to six times a week were 2.5 times more likely to have prostate cancer than men who ate such red meats less than once a week". (B5). Furthermore, according to Waldholz, people _____ replace red meat with chicken and fish and eat more vegetables fruit and grains can decrease the risk of colorectal cancer. Researchers found that people who ordinarily ate red meat ___ not chicken and fish had an 80 percent greater risk of expanding cancer. (B5)

For these reason, children shouldn't eat red meat.

Nowadays_ may children are overweight and it cause unhealthy. In addition_ vegetable and fruit won't _____ affect children's growth. On the contrary__ they contain more nutrition than red meat. Moreover_ if children eat too much red meat they may easily have cancer and heart disease when they grow older. Children can grow healthier without red meat.

APPENDIX D

IDENTIFICATION OF ERRORS IN SAMPLE ESSAY

ERRORS IDENTIFIED IN SAMPLE ESSAY USED
IN EVALUATION OF PROGRAM ACCURACY

Children will have good health without red meat

1. When you sit down for a family meal, what's the prime [WC] food?

2. Is it hamburgers, a [ART] pork or beef steak?

3. Is it broiled, skinless chicken?

4. Or [CONJ] is it a dish of fruit, beans and vegetables?

5. In recent years, health experts have encouraged Americans to change much [GE/MW] red meat, too many fat [QUANT, C/NC]. [PUNCT] (O'Neill WH7).

6. In addition [PUNCT] school lunches contain too many fat [QUANT, C/NC] thus [SENT BOUND] our children's health is at risk. [PUNCT] (Sackin, B7).

7. In fact [PUNCT] diet is connected with people's health.

8. According to U.S. Department of Health and Human Services [PUNCT] they reported [REDUN] " [PUNCT] Of the 250 million Americans now living, about 75 million will eventually have cancer." [PUNCT] (326).

9. According to their statistics [PUNCT] there were 337,500 people ___ [REL PRO] dead [WF] in [PREP] cancer in 1990 and 550,000 people ___ [REL PRO] dead [WF] in [PREP] heart disease in 1990.

10. Recently, researchers also discover [VT] the number of vegetarian teens is growing.

11. They prefer vegetable [SING/PL] rather than red meat

because of health benefits. [PUNCT] (Mathias, D5).

12. In order to grow healthily, children should not eat meat such as beef and pork because of some [WC] reasons:

13. First [PUNCT] red meat contain [SV AGR] much fat and it causes children to gain weight, [SENT BOUND]

14. secondly [WF] [PUNCT] vegetables and fruits won't _____ __ [GE/MW] affect children's growth [PUNCT] and [PUNCT] finally [PUNCT] [ART] high intake [PREP] red meat may easily have [WC] cancer and heart disease.

15. Several expert [SING/PL] question whether is it good [WO] if [REDUN] a diet without red meat.

16. Gretchen Hill, associate professor of food science and human nutrition, claimed that a diet without beef and pork will poses [VF] [ART] risk for kids because red meat is [ART] necessary of [PREP] a [ART] source of iron and protein.

17. He [PRO AGR] also mentioned vegetarians take a big risk if they force their diet on their children.

18. Hill's colleague, Dennis Gordon [PUNCT] announces that meat is not only [CORRELATIVE CONJ] important for the absorption of iron from other foods.

19. He said [PUNCT] "Without at least a small amount of meat in your diet, it is almost impossible to achieve good iron nutrition". [PUNCT]

20. Yes, those points are right, however, [SENT BOUND] we can eat [ART] variety of beans to replace the red meat nutrition [WC]. [PUNCT] (Adam 28).

21. Adam believes beans are nearly the perfect food: [PUNCT] rich __ [PREP] carbohydrates, iron, protein, fiber and folic acid, _____ [CONJ] containing little or no fat and no cholesterol.

22. They've been found to lower cholesterol, against certain kinds of cancer [PARALLEL STR] and normalize blood sugar.

23. For example: [PUNCT] lentil [SING/PL], kidney beans, and navy beans are high in iron and protein. [PUNCT] (28).

24. The expert, Dennis Gordon, disagree [SV AGR] ____ [PREP] people whose diet with [PREP] no red meat.

25. He points out that _____ [PREP] a diet without red meat nutrition [WC]_ [PUNCT] such as copper, immunity to illnesses decreases. [PUNCT] (12).

26. But [CONJ] according to Webb, food which contain [SV AGR] beta-carotene,____ [CONJ] vitamin c [CAP] may push up [WC] people's immune system [SING/PL] because [WC] of a maxim _ [PUNCT] " [PUNCT] An apple a day, keep the doctors away". [PUNCT]

27. There are many people ___ [REL PRO] think that it's very hard to make children only eat beef and pork [GE/MEANING].

28. It happen [SV AGR] not only in [PREP] children who begin [VT] to learn __ walk [VF] -toddlers [PUNCT] but also _____ [PREP] school-age children.

29. Yes, sometimes it's tough.

30. However, William Sears thinks that parents can make fresh foods fun.

31. _____ [SENT CONNECTOR] Make vegetables and fruit more fun by naming them.

32. For example: [PUNCT] serve broccoli "[PUNCT] trees ",[PUNCT] carrot "wheels", [PUNCT] avocado or pear "boats" and apple "half moons". [PUNCT]

33. This method is quite useful. [PUNCT] (WH8).

34. The first reason that children shouldn't eat meat is because [REDUN] red meat contain [SV AGR] much fat_ [PUNCT] and it causes children to gain weight and create [SV AGR] health problem [SING/PL].

35. The report announced that kids consume too much saturated fat, which is discovered [WC]in red meat.

36. And [CONJ] medical studies have displayed [WC] that in your [PRO AGR] body_ [PUNCT] saturated fats push up [WC] the level of cholesterol in kids [POSS] body [SING/PL]. [PUNCT] (O'Neill WH8).

37. In addition_ [PUNCT] Dr. Ronald Kleinman said that if children are in ages two to five [PREP] _ [PUNCT] they should change to an adult style diet.

38. And [CONJ] after age five, children, like adult [SING/PL] should keep blow [WW] fat to about 30 percent of caloric intake, because if you [PRO AGR] are high in [WC] caloric intake_ [PUNCT] it is easily [WF] to cause [WC] overweight.

39. And [CONJ] overweight [ADV PHR] may make kids feel tried [WW] easily. [PUNCT](15).

40. Dr. Kleinman also suggested __ [PREP] parents that they

can convinced [VF] their children to eat a low animal fat diet.

41. Offer a lot of snake [WW] foods - [PUNCT]fruits_ [PUNCT] popcorn, and in [PREP] dinner, offer fish and vegetable [SING/PL].

42. These food [SING/PL] may let kids have a normal weight. [PUNCT] (15).

43. The second reason that children should eat meat is because [REDUN] vegetable [SING/PL] and fruit won't _____ [GE/MW] affect children's growth.

44. On the contrary_ [PUNCT] they contain more nutrition than red meat.

45. Mathias believes that if children don't eat red meat_ [PUNCT] it won't affect children's growth.

46. She remember [SV AGR] one vegetarian teen told her_ [PUNCT] "_[PUNCT] I feel healthier_ [PUNCT] and I don't get any colds and the animal are hormone fed [PARALLEL STR]". [PUNCT] (Mathias D5).

47. Furthermore_ [PUNCT] according to Haederle, she think [REDUN, SV AGR] vegetables and fruits are more nutritious than red meat. 48. As we know_ [PUNCT] the most important nutrition [WC] of red meat are protein and iron.

49. But [CONJ] fruits and vegetable [SING/PL] not only contain protein and iron but also [PARALLEL STR] contain a lot of vitamins, folic acid and beta-carotene.

50 These nutrition [WC] also play an important role in humans

[POSS] body [SING/PL]. [PUNCT] (E1).

51. More over [WF] [PUNCT] they [WC] report about American eating habits came from a group called the Physicians committee [CAP] for Responsible Medicine.

52. What they had to show may surprise some people.

53. They suggest changing the four basic food groups that people have heard about.

54. The new diet include [SV AGR] : [PUNCT] 1. fruits 2. legumes 3. grains and 4. vegetables [PUNCT].

55. You perhaps noticed what's missing from this list: [PUNCT] [MISSING VERB] red meat (beef and pork), because they think _____[MISSING NP] without meat won't affect children's healthy [WF]. 56. They also said that children should decrease the amount of meat they eat and eat lots of fish, grains, breads, cereals and legumes, like peas, beans and lentils.

57. These group [SING/PL] of food are rich in protein and iron and con [WW] help kids grow healthily. [PUNCT] (O'Neill WH 18)

58. The third reason that children shouldn't eat meat is because [REDUN] if children eat too much red meat, they may easily have cancer and heart disease when they grow older.

59. According to O'Neill, Experts [CAP] from the National Cholesterol Education Program suggested that children over age 2 [NUMBER CONVENTION] have a low-fat, low-cholesterol diet to forestall heart disease later in life.

60. Heart disease is the number _____ [MW] killer in the United States.

61. O'Neill believes red meat is rich in fat and cholesterol_ [PUNCT] and O'Neill [REDUN] found something good [NOUN CLAUSE] that __ [ART] decrease on [PREP] saturated fats and cholesterol can help kids avoid heart attacks and other heart problems when they grow up because cholesterol clogs people's blood vessels and causes heart disease. [PUNCT] (WH8).

63. Also, according to E. [PUNCT] Bishop_ [PUNCT] "fat in the diet-[PUNCT] especially animal fat-[PUNCT] is linked to prostate cancer. 64. The reason is that scientists think dietary fat can affect the body's levels of sex hormones, perhaps raising levels of the male sex hormone, therefore, push up [WC] the risk of prostate cancer. 65. The recent statistics of 22,000 male physicians showed " [PUNCT] men who ate beef or pork as a prime [WC] dish five to six times a week were 2.5 times more likely to have prostate cancer than men who ate such red meats less than once a week". [PUNCT] (B5).

66. Furthermore, according to Waldholz, people ___ [REL PRO] replace red meat with chicken and fish and eat more vegetables_ [PUNCT] fruit and grains can decrease the risk of colorectal cancer.

67. Researchers found that people who ordinarily ate red meat ___ [CONJ] not chicken and fish had an 80 percent greater risk of expanding [WC] cancer. [PUNCT] (B5)

68. For these reason, children shouldn't eat red meat.

69. Nowadays_ [PUNCT] may [WW] children are overweight and it cause [SV AGR] unhealthy [WF].

70. In addition_ [PUNCT] vegetable [SING/PL] and fruit won't _____ [GE/MW] affect children's growth.

71. On the contrary_ [PUNCT] they contain more nutrition [WC] than red meat.

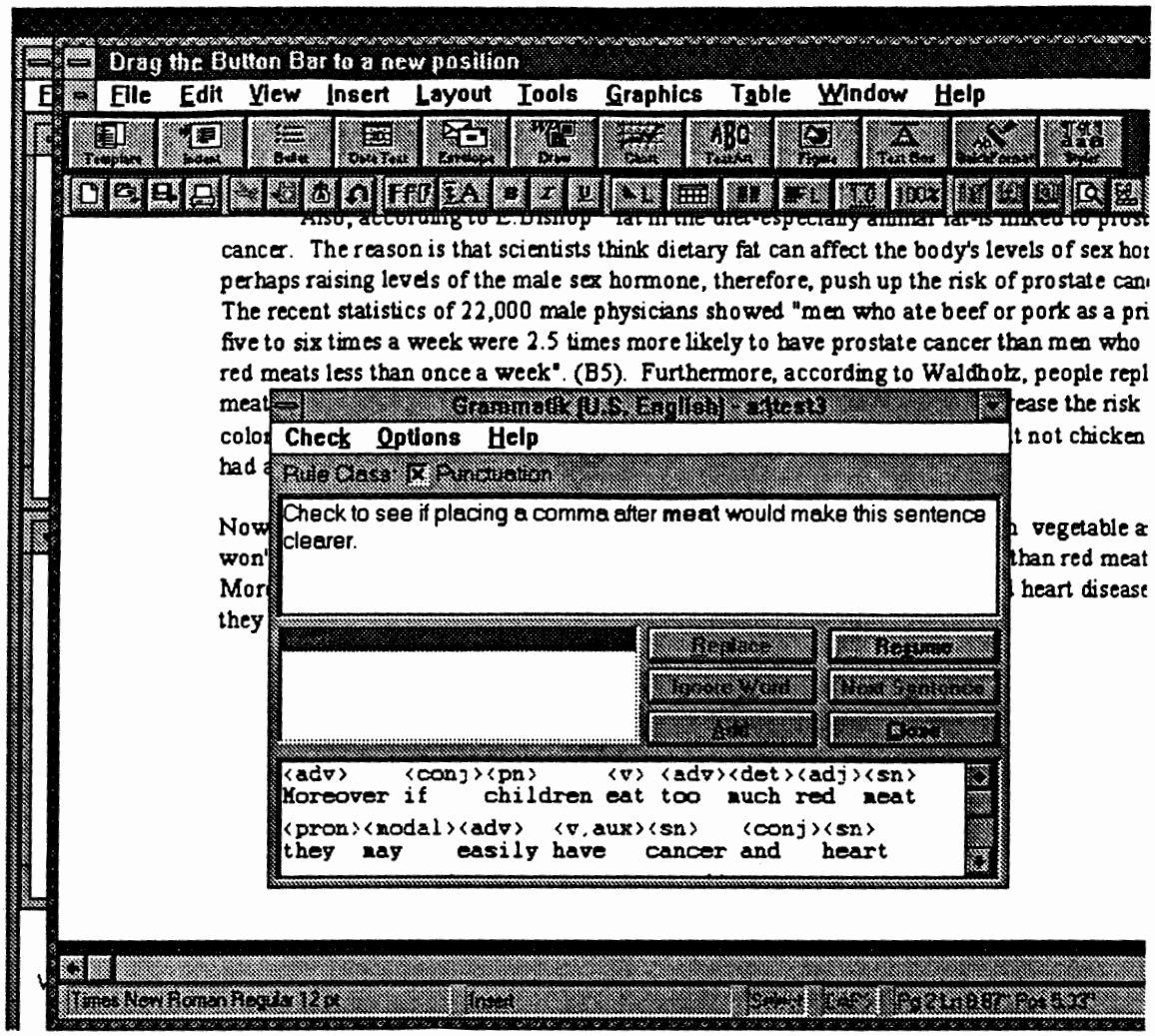
72. Moreover_ [PUNCT] if children eat too much red meat they may easily have cancer and heart disease when they grow older.

73. Children can grow healthier without red meat.

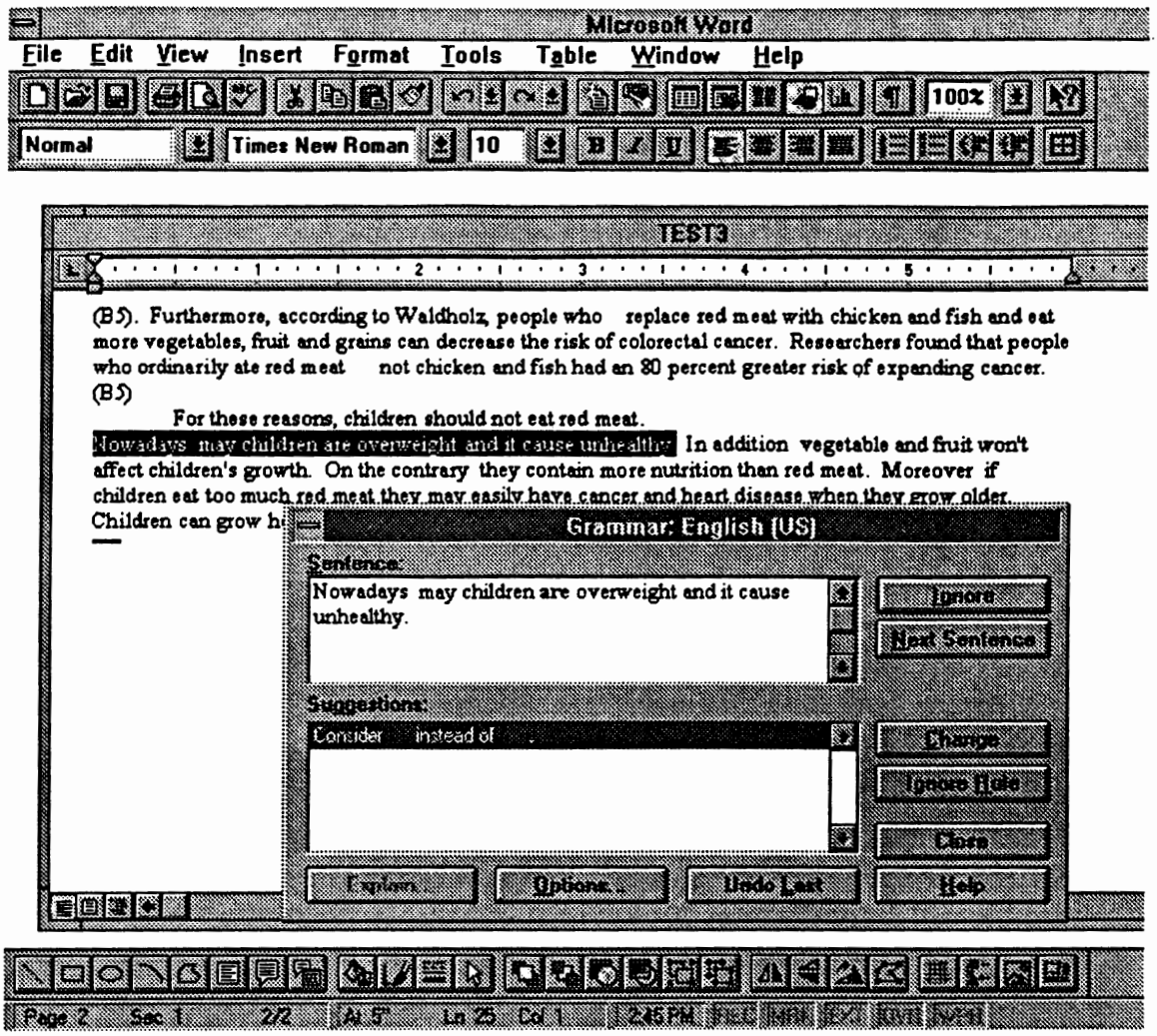
APPENDIX E

SAMPLE FACSIMILIES OF GRAMMAR CHECKING PROGRAM INTERFACES

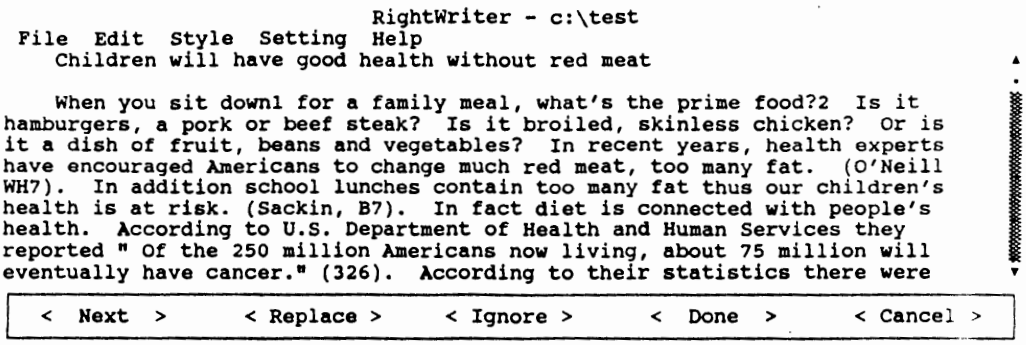
GRAMMATIK 5 INTERFACE



MICROSOFT WORD INTERFACE



RIGHT WRITER INTERFACE



2
Question: Is this a complete sentence? If so, is there a comma missing?

Suggestion: RightWriter cannot find the part of the sentence that is not conditional. There is no comma separating the conditional part of the sentence from the rest of the sentence. Either insert a comma where appropriate or complete the sentence.

<Standard Help> < Full Help > <Extended Help>