

AN ABSTRACT OF THE THESIS OF

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Title: A Study of the Effectiveness of Computer-Aided Instruction in the Writing Classroom

Abstract approved: Faye Nell Uowell

Computer-aided instruction is the focus of much contemporary research; this thesis is a contribution to that research in the area of composition. After examining previous scholarship in the areas of sentence-combining as a means for improving composition, different methods for teaching relative clauses, and finally, CAI in general, the researcher created a five-exercise computer program on sentence-combining with relative clauses. With this program, she could then examine the feasibility of CAI from the vantage points of programmer, instructor, and student.

She selected 86 subjects from freshman composition classes by means of a diagnostic pre-test and divided them into three groups; CAI, mini-course, and control. She kept a log of programming experiences and a log of instructional observation during the study. To obtain statistical data, she classified the exercise, post-test, and post-post-test scores by sex, class level, and type of instruction.

The researcher discovered from the programming phase that, with a patient teacher, one can learn to use a computer in a short period of

time. From the instructional observations, she found that most students were enthusiastic about CAI and that it was a good aid for teachers. Finally, from the statistical data, she discovered that in both the mini-course and CAI groups, female scores were higher than male scores, EN 108 students did better than the other two class levels, and the mini-course group did better overall than the CAI group. However, because the difference in test scores was a matter of only one or two points with quite a few of them not statistically significant and because the CAI group's main deterrent may have been that they were not accustomed to reproducing answers exactly, perhaps none of the variables is as important as giving the students more exposure to CAI to determine if they are suitable candidates in the first place.

A STUDY OF THE EFFECTIVENESS OF COMPUTER-AIDED
INSTRUCTION IN THE WRITING CLASSROOM

A Thesis
Presented to
the Division of English and Foreign Languages
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Chapter 1

BACKGROUND, PURPOSE, AND SCOPE OF THE STUDY

I. BACKGROUND OF THE STUDY

Although computer-aided instruction (CAI) has been on the educational scene for only a few years, more and more schools, from kindergarten to the college level, are adopting it in some form as a classroom aid for teachers. The Age of Computers, which seemed like a distant science fiction fantasy a few short years ago, has now arrived, forcing teachers, administrators, and even students to deal with this new medium, if only to keep up with a changing world.

Feelings about CAI vary from educator to educator. One of the loudest complaints has been that, in order to use the machines, one must learn a whole new language, if not a new teaching strategy, and that idea frightens people. On the other hand, many educators proclaim CAI a blessing, because once they have moved beyond the orientation stage, the computer can give them more time to concentrate on human interaction in the classroom. The concept of CAI is therefore a timely and important issue, especially in the area of writing, and any research which proves that CAI can work will be valuable as a means of persuasion.

This researcher herself sat down in front of a computer for the first time in 1983, learned to use it, and then created the sentence-combining program which she used in the study. In order to do this, she

drew on current scholarship in three areas: sentence-combining as a means for improving composition, the various approaches to teaching relative clauses, and, of course, computer-aided instruction. During the process of creating this program and then watching her subjects' reactions to it, she compiled a substantial amount of information on the programming process, instructional advantages and disadvantages, and the subjective feelings of her students in an attempt to give an overall view of CAI in the writing classroom.

CHAPTER TWO

II. STATEMENT OF THE PROBLEM

Statement of the problem

The problem which the researcher addressed was this: When applied to a specific writing concept, is CAI as effective as, better than, or worse than human instruction from the vantage points of the teacher, the programmer, and the student? In order to examine this question, she used three sources of data. First, she kept a log of programming experiences. Then she recorded the scores of 58 students who worked through a series of five sentence-combining exercises: thirty on a computer and twenty-eight in a mini-course offered by the researcher. To these, she added the scores of a control group, twenty-eight students who had no instruction at all. Looking at CAI from the prospective of both programmer and instructor, she attempted to answer the question posed above.

Statement of the problem

III. SIGNIFICANCE OF THE STUDY

Statement of the problem

Although this study is small in scope, it can perhaps offer insight into the feasibility of CAI in other areas of writing. To obtain a clear

view of possible limitations, the researcher examined the following variables: sex, class level (developmental English, Composition I, and Composition II), and type of instruction (CAI, mini-course, and none). Other data which contributed to the overall perspective were previous typing experience and time needed to finish the CAI program, scores on all exercises, and the amount of absorption and retention, based on an error analysis of pre-, post-, and post-post-tests. Nonstatistical data included observations about the technical content of the program and, of course, the researcher's own observations as a programmer/instructor. One or all of these factors could have a significant effect on the success and acceptance of CAI as a means for teaching sentence-combining or any aspects of writing improvement. Certainly some of the factors could be applied to CAI programs outside the writing classroom, too.

IV. LIMITATIONS OF THE STUDY

Since no study could possibly examine the effectiveness of CAI as a whole, certain limitations are inevitable. Although the principles of this experiment are applicable to other fields, this study is limited to English, further reduced to composition, then to sentence-combining, and finally narrowed to relative clauses. Likewise, only freshman composition students participated in the study, and the researcher could not regulate their classroom language experience. Control over randomization and number of subjects was also limited because of conflicting student schedules; low enrollment in EN078 this semester, for example, resulted in fewer of these students participating. Finally, only one Zenith

computer was available, and the researcher was forced to schedule around others who also used it. This time-sharing restricted the number of subjects who could use it daily, thus extending the length of the experiment to two weeks. The mini-course instruction also extended to two weeks because of low attendance at the first one.

Chapter 2

REVIEW OF PREVIOUS LITERATURE

Before attempting to construct her computer program or analyze its effectiveness, the researcher examined previous scholarship in three separate, yet interrelated areas: sentence-combining theory, the teaching of relative clauses, and computer-aided instruction. Whether or not sentence-combining practice actually improves composition has long been the subject of debate among educators, and likewise, not all educators agree on one way to teach relative clauses. Finally, CAI as a fairly new concept is as wide-open to diverse opinion as the other two. By reviewing what has been said and done in the past about these concepts, however, the researcher gained a clearer understanding of her own study and was able to make more informed choices when the situation arose.

1. SENTENCE-COMBINING

Over the past several years, a great deal of research has been done on sentence-combining. Many linguists feel that the ability to combine and rearrange parts of a sentence into more effective patterns is a sign of writing maturity, and that sentence-combining should therefore be taught as a means for improving composition. This approach has not won its place in the English curriculum easily; it has faced a long, hard battle against educators who neither believed in its effectiveness nor wanted radical changes in the classroom. Even today, sentence-combining

is not totally accepted, but the continuous stream of positive research has greatly facilitated its acceptance.

Unfortunately, sentence-combining practice did not enter the education scene as a clearly successful way to refine composition. In 1962, R. J. Harris conducted a two-year experiment in which he divided ten classes of high school students into two groups. Five of the classes studied formal grammar, and the other five learned to recognize and correct common composition errors, doing a great deal of sentence-combining in the process. With the theory of sentence-combining still in its infancy, Harris' results were devastating: on the post-post essay, the sentence-combining group actually did worse.¹

In 1965, however, Kenneth Hunt published a study which rehabilitated the concept. First he introduced a new measure of syntactic maturity called the "minimal terminable unit" or "t-unit," which he defined as one clause, plus any subordinate clause or nonclausal structure attached or embedded within it. In his study, Hunt examined the grammatical structures in essays written by students in Grades 4, 8, and 12, and then he had the students practice changing independent clauses into subordinate clauses or non-clauses. Finally, he asked them to join the new patterns to other clauses and t-units. At the conclusion of his study, Hunt reached two important conclusions: that the students, being more aware of syntax, had begun using noun phrases/clauses in place of simple word nouns, and they had begun replacing simple adjectives with complex adjective modification. Both, said Hunt, showed syntactic maturity.²

In 1967, R. C. O'Donnell, N. J. Griffin, and R. C. Norris conducted a major study of the relationship between age and writing maturity. They presented two eight-minute films to a group of children in Grades 1, 2, 3, 5, and 7, and asked the children to write about them. Extra writing samples were also taken from students in Grades 3, 5, and 7. The researchers concluded that the number of clauses per t-unit did increase with age, and that teachers should introduce the idea that sentences have different parts which can be recombined for better effect as early as Grade 4; at that age, children begin to understand syntax.³

In 1969, John Mellon conducted a landmark study of sentence-combining. He began by dismissing modeled pattern writing practice, applied transformational rules, and traditional sentence-parsing. Instead, he based his study on two ideas: that sentence-combining worked better than any of the other three, and that it should be presented separate from the writing program, since the sentences a student used in practice would be more complex than those students would most likely write. Also, Mellon believed that if the student already knew the content, he could concentrate on the structure.

Mellon selected 247 white, middle-class seventh graders in twelve classes from four Boston schools: urban, suburban, and private. In five classes, the teachers placed a heavy emphasis on sentence-combining practice. Five classes simply studied traditional grammar, and the last two did neither. The first and last four weeks of school, the students wrote nine compositions, of which Mellon used only the first ten t-units in each, looking for twelve factors of syntactic fluency: some of these

included t-unit length, subordination-coordination, nominal and relative clauses and phrases, cluster modification, and depth of embedding.

The results showed an increase in growth of 2.1-3.5 years, while the control group failed to show even one year's growth. Mellon claimed that the increase in growth rate was enough to justify sentence-combining programs as a supplement to elementary and junior high English.

The year 1970 produced two more writers with positive opinions on sentence-combining. In Teaching High School Composition, Richard M. Weaver's theoretical article began by speculating about the Greek word ἄελφος, meaning a man clever at speech, "clever, fearful, terrible"; in other words, Weaver stated that a man who could control his words had power. He hypothesized that people who use frequent simple sentences see the world as a simple conglomerate in which things merely exist or occur. Those who use frequent compound sentences are an extension of the above, but they also see the world as a perfect balance. This concept of

Robert R. Potter in the same collection of essays contributed yet

another study, this time on tenth grade students whom he asked to write about the qualities of a good teacher. These essays were corrected for mechanics and typed before being given to four raters who marked them

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Robert R. Potter in the same collection of essays contributed yet another study, this time on tenth grade students whom he asked to write about the qualities of a good teacher. These essays were corrected for mechanics and typed before being given to four raters who marked them

good, average, or poor.⁶ The number of adjective clauses in the good and poor papers were the same, but the subordinators used were notably different. "Who, whom, which, when, and where" appeared in 57% of the good papers and in only 39% of the poor ones. The poorer writers used "that" or left the position vacant, which showed syntactic immaturity, said Potter.⁷

The earliest textbook to appear on the market was William Strong's Sentence-Combining: A Composing Book in 1973. The emergence of textbooks confirmed sentence-combining's progress; people were beginning to apply the theory. Strong divided the book into two sections: in Phase 1 he instructed students to combine sentences for best effect by using their ear, and then in Phase 2 he asked them to combine following a model. The increasingly difficult kinds of models he presented included the two-sentence level, two-sentence level with a clause in the middle, absolutes, multi-levels, multi-levels with clauses in the middle, two clauses, two clauses with multi-levels, and then base clauses.⁸

In 1976, Frank O'Hare added another study to the pro-sentence-combining argument. He began, however, with five criticisms of Mellon's 1969 work. O'Hare pointed out that Mellon had never tested the general knowledge of certain grammatical terms like "relative clause," but merely assumed it. Secondly, Mellon had said that sentence-combining should be arhetorical, yet he constantly referred to using its benefits in writing. (In his study, O'Hare also excluded sentence-combining from regular composition class, but maintained that he only did so in order not to confuse the results.) Third, if Mellon's experimental group only increased t-units by 1.2 words, was that a sufficient improvement?

Perhaps a larger sample would have changed the results. Fourth, O'Hare said that the terminology Mellon used to give students clues was too vague; "T:rel" could have meant several different relative subordinators. Finally, O'Hare noted that Mellon never asked his students to apply the concepts.⁹

O'Hare's research design included two experimental groups and two control groups who were given essay pre-tests and post-tests. These divisions were composed of 83 seventh graders at Florida State University High School who were equally distributed by IQ, race, and sex. There was no way to control language experiences, but the teachers attempted to give similar assignments.¹⁰ The two experimental groups were given sentence-combining practice 1 hour and 45 minutes per week, and they progressed from simple sentences to adverbial phrases to single embeddings to changing parts of speech. O'Hare did not focus on errors, and there was little teacher intervention; the students conducted their own discussions. Finally, the post-test essays were divided by sex and ability of the writer and then graded holistically.¹¹ O'Hare specifically looked at six factors: words per t-unit, clauses per t-unit, words per clause, noun clauses per 100 t-units, adverb clauses per 100 t-units; and adjective clauses per 100 t-units.¹² The study showed that the experimental group improved significantly in all areas, and O'Hare suggested that a follow-up study be done in two years to check for decline.¹³

In 1977, a major controversy blossomed in College Composition and Communication concerning the legitimacy of certain studies on sentence-combining. It began when James W. Ney completed a study at Arizona

State University and concluded that there was no sign of gain, that sentence-combining might even retard progress. He also offered the view that perhaps college freshmen were beyond any writing improvement which sentence-combining practice might offer.¹⁴

Daiker, Kerek, and Morenberg came back in 1978 with a scorching review of Ney's study in which they claimed that his whole experimental design was irrelevant and misleading. Only ten minutes per hour of the twenty-seven hours total had been spent on sentence-combining. Mellon had spent two hours per week for nine months, and O'Hare, who had also used seventh graders, had spent twenty hours total. Ney had not mentioned topics, mode of discourse, time given for writing, or exam situation. Besides using a poor design, Ney had had his students decomposing sentences entirely too much, they said. In contrast, they cited Hunt in a later study at Miami University. He had used six control and six experimental groups, all of whom took the standard English course and had similar ACT scores. The experimental group had used Strong's Sentence Combining: A Composing Book, and every student wrote his essays at the same time and day over the fifteen week semester. Instructors were matched by age, academic rank, experience, and teaching effectiveness, and the classes were the same size. Topic, time, and discourse was controlled, and the graduates who did the grading were specifically trained to look for t-units, clauses, and words. Without this kind of control, they asserted that Ney's negative findings could not be as valid as Hunt's more positive results.¹⁵

Ney answered their challenge in a short article that same year in which he claimed that English teachers had neither the time nor the

desire to spend so much class time on sentence-combining. He also complained that classrooms are not perfectly controlled laboratories anyway.¹⁶

Daiker, Kerek, and Morenberg published a textbook similar to Strong's the following year. In the preface, they explained that in the fall of 1976, they had divided 300 Miami University freshmen into two groups. One half of them read and analyzed essays and worked with college rhetoric, while the other half practiced only sentence-combining. After fifteen weeks, the essays written by the sentence-combining group were judged superior. The three researchers also concluded that sentence-combining can be used to teach control of structure, coherence, emphasis, and tone, as well as thesis formation and essay organization; hence, the philosophy of their textbook took the potential of sentence-combining a step farther than Strong's test.

In Part 1 of the text, they simply advised the student to use his ear and try to vary sentence options.¹⁷ They gave sample model sentences, then a series of sentences, and an entire paragraph to correct. Finally, they gave a series of concepts: participles, appositives, absolutes, prepositional phrases, subordination, coordination, and noun substitutes.¹⁸ Part 2 involved the arrangement of ideas for best effect, and Part 3 emphasized finding a thesis.¹⁹

In 1981, several linguists voiced a variety of opinions about sentence-combining. Tate and Corbett complained that traditionalists were still too slow to accept the more modern theories.²⁰ Strong published another sentence-combining textbook in which he continued to support the concept, but added his own stipulation that the inner ear be

the judge.²¹ Francis Christensen objected to sentence-combining in one of his articles on the grounds that the "cumulative sentence" (a base sentence followed by free modifiers) was more modern. All "additions," as he called them, should modify only the base sentence.²² Last, Charles R. Cooper published a piece in which he delineated a teaching strategy. He claimed that children in upper elementary grades should focus on adjective problems (Part 1 of his text). At Grade 7, adjective embedding and noun substitution should be the focus (Part 2), and thereafter the students should deal with multiple embedding and substitution. He also suggested a way to meet Christensen's criticism: since embedding and accumulation can occur in the same sentence, the instructor could use some of Christensen's sentences from his 1964 Student Workbook.²³

In 1983, John Clifford and Robert F. Waterhouse published a sentence-combining workbook which they prefaced with the encouraging news that the practice was being used increasingly in college as well as high school to develop flexibility and effective expression of language. However, Clifford and Waterhouse did not agree with the idea that, even today, sentence-combining is rarely integrated into the main flow of composition classes. In Part 1 of their text they included exercises in which students had to rearrange simple idea sentences into different patterns. Part 2 involved combining simple idea sentences into a variety of more complex expressions, and in Part 3, students broke down and recombined complex sentences for better effect. The authors always gave several possible models in all three parts and attempted to include material from all disciplines to encourage use of the book in all academic areas. Also, the authors decided that words like "phrase" and

"clause" should be dropped in favor of more "natural" words like "description" and "causality."²⁴

The concept of sentence-combining as a proven means for developing composition skill is not as wholeheartedly accepted today as researchers like Mellon, O'Hare, Strong, and many others would like, but thanks to research which has proven its success, it has come to be more generally respected. In this researcher's study, she accepted the effectiveness of sentence-combining as a given and chose one aspect of it as the basis for her computer program. By examining what had been done in the past with sentence-combining, however, she gained many valuable insights into its potential as a unit of instruction: that after Grade 4, age need not be a factor in learning ability, that sentence-combining has unlimited possibilities (from teaching simple embedding to the formation of a thesis sentence), and that one standard teaching method does not exist. In the interests of this study itself, she discovered that those who published studies on the effectiveness of sentence-combining faced harsh repercussions if their experimental designs did not follow clean and precise scientific procedure or if they produced hasty generalizations. Perhaps this last lesson is the most important consideration in any study.

II. RELATIVE CLAUSES

"Sentence-combining" produces more effective sentence flow in general, but for the purposes of her study, the researcher limited her topic to one kind of sentence-combining. She drew upon Robert R.

Potter's 1970 study in which he noted that the subordinators who, whom, which, when and where did not appear as often in poor essays. Also, from her experience as an Emporia State University Writing Lab tutor from 1981 to 1984, the researcher had noticed the same problem: that poorer writers often produced choppy sentences which could have been more effectively combined using these subordinators. Having settled upon this topic, she further narrowed the number of subordinators used to three: who, which, and that.

After surveying recent editions of handbooks and writing texts dealing with who, which, and that, she divided the available information on these subordinators into seven categories before making her choices about what to include in her computer program: semantic rules, case rules, punctuation rules, clause position rules, learning progressions, and, of course, precise wording in defining subordinate clauses, as well as the term "subordinator."

The semantic distinctions among the three subordinators vary according to the level of specificity grammarians use. Although most of them agree that "who" should be used only in clauses describing humans, Floyd Watkins, William B. Dillingham and Edwin T. Martin suggest that it may be used with animals and some things called by name. Most grammarians also agree that "which" should be used with things, but Jim W. Corder adds impersonal organizations to its meaning; the American Heritage Dictionary specifies particular things as well as entire statements; Helen Mills adds ideas, and Watkins, Dillingham and Martin list animals as well. An analogous difference of opinion occurs in regard to "that." Corder and John Halverson and Mason Cooley say that "that" should

describe people and things. Watkins, Dillingham and Martin add animals, and Mills feels that ideas should also be included.²⁵

The case distinction between "who" and "whom" does not vary from text to text: "who" is always the subject of a clause, and "whom" is the object. However, a difference exists in the various opinions about "whom" in informal writing. John C. Hodges and Mary E. Whitter say "who" may be used as an object, except after a proposition. Frederick Crews suggests rewording the sentence if it sounds too formal using "whom." Corder notes that even the OED calls "whom" an anachronism in natural speech. Langdon Elsbree, Neil G. Altizer and Paul V. Kelly claim "who" may replace "whom" in an interrogative. Halverston and Cooley, however, disagree and say that while "whom" may be dying out of speech, it must be kept in formal writing, no matter what the circumstances. Finally, the American Heritage Dictionary goes so far as to say those who use "whom" may be considered "pedantic," and that if the sentence ends in a proposition, it is acceptable to use "who" in place of "whom" because the position of the proposition makes the sentence informal in the first place.²⁶

The restrictive/nonrestrictive debate does not involve "who," since most grammarians agree that it can be used in either kind of clause. The dissension lies in the punctuation of "which" and "that" clauses. Crews, Corder, the American Heritage Dictionary, and Mills all agree that "which" can be either restrictive or nonrestrictive. Watkins, Dillingham and Martin, Elsbree, Altizer and Kelly, and Watt say "which" may only be nonrestrictive, because it sounds too formal otherwise. Watt, Halverston and Cooley, Mills, Crews, and Elsbree, Altizer and

Kelly say "that" must always be restrictive; in fact, the American Heritage Dictionary warns that it is considered an error if used non-restrictively. Corder, however, writes that it is "usually" restrictive, which implies that there are certain situations in which it is not.

Finally, the American Heritage Dictionary adds this additional bit of information: some grammarians feel that "that" should never be used to introduce a restrictive clause involving humans.²⁷

The correct position of the adjective clause in a sentence is also subject to argument; however, there are only two places it can go. John M. Kierzek and Walker Gibson, for example, say it may go anywhere, as long as it will not be mistaken as a modifier of another word. Mills, on the other hand, suggests that it be placed as close as possible to the modified word.²⁸

The last area of conflict involves the teaching progression for adjective clauses; everyone has his own method. Clifford and Waterhouse do not distinguish semantic, case, or punctuation rules for "who," "which," and "that." Rather, they explain that an adjective clause either narrows a subject down (a colon, prepositional phrase, or adjective can do the same thing) or simply defines a subject. They then give examples and let the student try various combinations.²⁹

Mills teaches first that pronouns must have antecedents; then she introduces relative pronouns, followed by a definition of adjective clauses. To determine the case of "who," she says to substitute other pronouns. Then she gives students a series of sentences in which they must underline the repeated noun, substitute pronouns, locate the base sentences, change the personal pronoun to a relative one, and then put

the clause after the modified noun. Next, she asks them to do another series of exercises in which they must combine the sentences with no punctuation, select which sentence should be the base, and then do an exercise which combines all of these skills. This unit is followed by a section on identifying poor pronoun relationships, and then alternate kinds of subordination. Finally, she has them write five original sentences using these skills, and then an eight to ten sentence paragraph containing at least three relative clauses.³⁰

Daiker, Kerek and Morenberg's textbook first defines relative pronouns, next gives semantics rules, and then shows students how to drop the relative pronoun. Finally, it requires the student to combine sentences into an effective whole and fix a choppy paragraph.³¹

Troyka and Nudelman approach this learning process with a different vocabulary. They call a subordinator a "danger word" and then give examples of other danger words which make clauses dependent, separating the list of relative ones from the rest. Overall, however, they do not separate adjective clauses into a single unit of sentence-combining.³²

Because there are so many different ways to approach the rules, this researcher tried, without violating any major ones, to select those which seemed to be the most common and easiest to remember. Another factor in her choices was the medium of the computer itself. A good programmer presents material in small packages and in a form which makes computer grading easier and programming simpler. Therefore, she placed each of the seven rule categories into separate sections of explanation using the following wording (justification in parentheses):

Subordinate Clauses (most common definition)

These are groups of words which cannot stand alone, although they have a subject and verb.

Subordinators (taken from Troyka and Nudelman)

These are 'danger words' which signal subordinate clauses.

Semantic Rules (most common rules)

"Who" is used in clauses describing people.

"Which" is used in clauses describing anything but people.

"That" is interchangeable with "who" and "which."

Case Rules (most common rules)

"That" and "which" do not have case distinctions.

"Who" is used as the subject of a clause.

"Whom" is used as the object of a clause.

Punctuation Rules (most common rules)

"Who" and "which" clauses will be set off with commas if they contain unnecessary information.

"That" clauses will not generally be used with commas.

Clause Position Rules (simplifies programming)

The clause always goes immediately after the word or idea described (although it might sound fine elsewhere) so that the computer can grade more easily.

III. COMPUTER-AIDED INSTRUCTION

A great deal has been published in the last few years about the advantages and disadvantages of computer-aided instruction (CAI), advice on how to promote it in the schools, and suggestions about the components of a good program. With computers rapidly becoming a household word in education, everyone involved--teachers, administrators, and even students--must seriously consider the issue.

CAI enthusiasts have published books, reports, and articles about how helpful CAI can be to teachers. From a four-year study by the British-government-funded National Development Program which began in 1973, J. R. Hartley reports that instructors seem enthusiastic about CAI because machines can calculate and display quickly, thus giving

students faster feedback than humans can supply. Besides this, computers can make the same decisions about learning progression as a teacher can, based on skill evaluations.³³

In a teachers' guidebook for using computers, Christine Doerr says that computers free teachers from the tedium of drill and practice and can be a great asset in diagnosing specific problems. Also computers do not have the personality biases and impatient tendencies which human instructors must fight to suppress. Finally, she points out that teachers do not always have the time or resources to allow each student to learn at his own pace. Research has proven that when students are allowed to progress at their own pace, rate of learning increases.³⁴

Another CAI enthusiast, H. F. Rahmlow, adds that teachers find editing their lessons and grading papers much easier, too. Besides this, recordkeeping has become a simple matter of entering numbers, which greatly facilitates grade preparation.³⁵

This last advantage, however, has turned out to be teachers' biggest fear, that computers will turn human instructors into mere recordkeeping bystanders. According to N. J. Rushby, E. B. James and J. S. A. Anderson, machines actually do just the opposite: they free teachers to do real teaching, which requires "adaptiveness, intuition, and social contact."³⁶ Also, Doerr says that computers can change the teacher's role from judge to mentor; since the machine is doing the grading, she has more time to give the student what must be an essential part of the education process: an encouraging pat on the back.³⁷

From the administrator's viewpoint, CAI is a definite advantage. Rahmlow points out that more students can participate in CAI programs

because of the flexible hours and locations. Also, the school can offer more subjects in the curriculum and can put students in "contact" with more experts without actually having to pay a speaker to visit.³⁸

Many writers hail CAI as a blessing from the student's viewpoint, too. Robert Levin and Claire Doyle have noted that typing rather than *writing seems to help handicapped students.*³⁹ Deborah Holdstein reports that students at the Illinois Institute of Technology like the computer's ability to keep track of their errors for them, besides giving immediate feedback and allowing them to proceed at their own pace. From her research, she has also discovered that because of the non-competitive atmosphere (only the computer knows their scores at that moment), students are more eager to come back for more.⁴⁰

Doerr adds that students at any level like the idea of "beating the machine." Sometimes underachievers can even surpass high achievers because this kind of instruction stimulates their curiosity and desire to succeed, which may have been dulled by classroom criticism. In addition, the novelty of using a machine does not seem likely to wear off, because attendance in classes which use computers remains noticeably high.⁴¹

Perhaps students have looked at the world around them, speculates J. S. A. Anderson, and realized that computers are the wave of the future. From the viewpoint of simple survival skills, maybe "information retrieval" should become the "fourth R" in education.⁴²

Unfortunately, several authors have noted disadvantages of CAI for students. Hartley points out that some students type slowly, and the fact that their answers must be entered exactly can be frustrating.

Also, dialogue is restricted to what has been programmed into the machine, so there is not a great deal of communication leeway in the event that the student has a question. According to Rahmlow, sitting in front of a computer may cause certain students to feel alienated, too. As a general rule of thumb then, Holdstein warns, be sure CAI is appropriate for the students who use it.⁴³

Teachers face difficulties, too, in dealing with computers. If they are doing the programming, they must anticipate every possible mistake a student might make, Hartley cautions. Rahmlow points out that if the system should malfunction, it takes time and expertise to fix, something all teachers might not have. Also, some teachers may not like losing part of the face-to-face interaction with their students to a machine. G. Kearsley, B. Hunter, and R. J. Seidel admit that educators really know very little about individualized instruction, even today, and less still about the effects of humor, graphics, speech, and motion as components of a program. Besides that, says Anderson, many instructors lack a basic understanding of the learning process itself, so they cannot intelligently evaluate programs.⁴⁴

Rahmlow points out two additional difficulties for administrators: not only must they come up with the funds for the machines, but they must fight resistance to change. Doerr comments that many schools still do not believe that there is sufficient positive research to justify CAI, although that situation has greatly improved.⁴⁵

In order to promote CAI in the schools, Rushby has some suggestions. He advocates that enthusiasm must start with the teachers; otherwise computers will never become "essential funding." A good promoter might

give the teachers an overview of previous research, materials available, evaluation criteria and methods, innovative strategies, and developmental techniques. Then he might let the teachers play student and offer their own input into the program, as well as encourage development of their own programs. Finally, he could suggest that administrators give promotions to those teachers who are innovative.⁴⁶ To Rushby's strategies, Doerr adds that administrators might give release time for creating new programs, besides encouraging attendance at inservices and in continuing education classes.⁴⁷

An abundance of existing statistical evidence can be used in persuasion, too. Anderson says that CAI has blossomed since the 1970's. Zinn reports that the ever-increasing familiarity students are attaining with computers is evident in the boom of personal computer sales. Kearsley, Hunter, and Seidel add that resistance is breaking down, resulting in the authorship of more CAI programs. It is now easier to disseminate these programs, too. Two major breakthroughs have resulted from CAI's increased popularity: it has spurred educational research in general, and more federal funding now exists.⁴⁸

Success stories are always helpful in persuasion. According to William Oates, Indiana University is in its fifth year of CAI, using the PLATO educational computer network to help students learn or review grammar, punctuation, word usage, and spelling. He conducted an experiment in which he divided beginning journalism students into CAI and non-CAI groups and gave them a diagnostic grammar pre-test, scored on a point system. During the semester, the CAI group could go to the lab for grammar remediation at their convenience and communicate with their

teachers by leaving notes in the computer terminal. In the non-CAI group, the teachers reviewed grammar, but did not have much spare time to do it. Finally, Oates administered a post-test, and the CAI group had increased their scores by a noticeable twenty points. In a subsequent survey, the students said they preferred CAI to regular class, self instruction, textbooks, films, and lectures; they also liked the challenge of the machine, and their teachers were enthusiastic. The biggest complaint was the shortage of equipment and machine memory. In the interests of this sentence-combing study, the researcher noted that relative clauses ranked 14th of 53 in order of most common grammatical problems, and CAI helped improve scores in this area by 37%.⁴⁹

Research also gives the beginning programmer hints about the necessary components of a good program. First and foremost, it should place the user in control of the pace, says Anderson. Hartley agrees that freedom is excellent for motivation, but he cautions that one must be selective in programming sections where the student has input, because the student might not always make the most effective decisions. Ideally, though, the students should be able to run the program without any supervision. Holdstein notes that with branching (programming in "loops" which allow the user to go to another section and return), students who need a second try can have it with more direct hints and positive reinforcement. This means restating what the student has done, as well as giving a gentle "wrong" statement with hints or repetition of rules, but William Wresch points out that students should eventually be given the correct answer. And, of course, that answer must be flexible enough to accept alternatives, says Helen J. Schwartz. Constance Curtin adds

that for better retention, the programmer might give hints for wrong answers in a variety of ways so the student does not tire of reading the same statement of explanation and skip over it.⁵⁰

The ideal program must also match the individual's needs. Drills, practice, diagnostic tests, and question/answer tutorials have been the core of CAI for a long time, says Zinn, because they have been successful ways to meet most students' needs for additional practice or acquisition of a new concept. Information in any form must be presented in small packages, however, Wresch notes. G. Pask points out that there are really two kinds of cognitive competence with which a programmer must contend when dispersing information. One is "serialistic," remembering as a series of units connected by links; the other is "Holistic," remembering a large unit as a whole. No two students learn exactly the same way. Nor should all students be given an exercise at the same difficulty level, says Schwartz, because not everyone has reached certain skill plateaus. Curtin suggests one way to deal with this ambiguity is to allow the student to move freely between difficulty levels in the program, and when he has answered a prerequisite number at one level, he can attempt the next level. Finally, M. Leiblum adds that CAI must be the appropriate medium for what the student wishes to accomplish; one would not use an audio-cassette to teach bike repair.⁵¹

Quality of feedback is another important aspect of CAI to consider. Holdstein notes that as a whole a good program should integrate instruction with interaction. If the student must somehow respond to prove he has understood a hint, for example, he will remember more, says Hartley. If the program simply allows the student to guess, Schwartz says, real

learning will not have taken place. And any payoff, scores, limitations of the program, or comments about what lies ahead should be included in this feedback.⁵²

Curtin offers several suggestions about program format. First of all, she advocates testing all material on live subjects during its development. Then she points out that each new section should refer back to a previous one and also contain an illustration of the point on the same screen. Explanations must be short and simple, not a huge mass of writing which will frighten the student, and the objectives of any drill should correspond with those of the final test. Curtin adds that a programmer must find a happy medium between overly long drills and insufficient practice, too, and also anticipate all questions, problems, even null answers, so that the student can progress as independently as possible without having to ask questions.⁵³

A good program, Schwartz notes, should be able to answer "yes" to the following questions. Does it respect the user? Does it promote individuality and anticipate input and responses? Is it easy to use, yet challenging? Does it eventually lead to human interaction in the classroom? The last question she asks is whether the students have any input on the effectiveness of the program.⁵⁴ Holdstein adds another question to this list. From her experience as Director of Basic Writing at the Illinois Institute of Technology, she has noted that many software programs she has reviewed offer little beyond the textbook and rote learning, and they also tend to be graphically too strong or weak. The question then would be whether the program is original, without being outlandish.⁵⁵

Computer-aided instruction can be a valuable aid in any classroom if it can overcome the teachers' resistance to change, which it is rapidly doing. Once a school does acquire its first computer, however, some frustrating problems are bound to become apparent: lack of mechanical knowledge, lack of structure, content, and programming knowledge, and lack of resource knowledge about what kinds of programs are available on the market, to name just three. Since support must start with the teachers, showing them how to use CAI and encouraging them to write their own programs might be the most positive first step in alleviating these problems. In this study, the researcher went through the same learning process as the teachers and encountered many of the pitfalls and positive experiences documented by others. Also, she attempted to follow suggestions offered by experts for creating a successful program, all of which will be discussed more fully in Chapter 4.

In summary, before the researcher could create a computer program for the writing classroom, she had to examine previous research about three concepts: sentence-combining, relative clauses, and computer-aided instruction. Based on what has worked in the past for researchers in these areas, she was able to construct her own study with a much clearer philosophy, process, and anticipation of results.

Chapter 3

DESIGN OF THE STUDY

I. GENERAL DESIGN

During one week of the 1984 spring semester at Emporia State University, approximately 375 Freshman Composition students took a pre-test in which they edited one of two choppy paragraphs. (See Appendix A for the timetable.) To insure uniformity in scoring the paragraphs, half the group did paragraph A as a pre-test and paragraph B as a post-test. The other half did paragraph B as a pre-test and paragraph A as a post-test. Although the content of the two paragraphs differed, both contained thirteen sentences, three of which were independent, i.e., there was no logical way to connect them to other sentences. Two pairs could be combined with either "which" or "that" clauses, one pair was restricted to a "that" clause, one to a "who" or "that" clause, and the final pair to a "that" or "whom" clause. This same format applied to the post-post paragraph C, given two weeks later. (See Appendix B.) Paragraph A appears below:

THE FOLLOWING PARAGRAPH IS CHOPPY. USING ONLY SUBORDINATE CLAUSES BEGINNING WITH WHO/WHOM, WHICH OR THAT, COMBINE AS MANY SENTENCES AS POSSIBLE. DO NOT CHANGE THE ORDER OF THE SENTENCES, AND DO NOT ALTER THE WORDING UNLESS ABSOLUTELY NECESSARY. YOU MAY DO YOUR EDITING ON THE PARAGRAPH ITSELF.

My brother got a Canon AE1 camera for his birthday. His birthday was on November 11. Ever since then, my family has been in hiding. Jimmy has developed aggressive tendencies.

He can't control them at all. His camera seems to be everywhere. This is annoying. I can't even count the number of embarrassing pictures he has collected in his photo album. He caught my father on Christmas Eve. Dad was putting presents under the tree. He also has a picture of my sister. He caught her in the shower. One of these days, my mother is going to take the camera away from him and give him a baseball mitt.

(Instructors were not allowed to explain the directions.)

In order to qualify for the study, the students had to miss at least two out of the five possible combinations. Because it can be subjective in many cases, missed punctuation was counted as an error only if it appeared with a "that" clause. Students learned punctuation in the remediation, but all possibilities were offered. The researcher noted that among those who missed at least two possible combinations, five different kinds of errors occurred:

1. Incorrect subordinator selected from four choices.
2. Correct subordinator selected, but excess pronoun/noun retained.
3. Either correct or incorrect subordinator selected from four choices, but illogically placed.
4. Alternative means of connection used.
5. Alternative means of connection used, but grammatically incorrect.

Not only did the pre-test assess knowledge of subordinate clauses, but it tested ability to follow directions.

One hundred twenty-seven students failed the pre-test, and within two weeks the researcher had arranged for thirty students to go through remediation on the Zenith computer, twenty-eight to take a mini-course, and twenty-eight to have no instruction at all. Random selection of subjects was not possible because of scheduling conflicts, but in all

three types of instruction, the researcher did manage to obtain approximately five students each from the following groups: EN078 males, EN078 females, EN107 males, EN107 females, EN108 males, and EN108 females.

Because of the smaller number of EN078 females, only three of them participated in the mini-course and no-instruction groups, for a total of 86 students in all. As clarification, EN078 is developmental English, EN107 is Composition I (rhetoric) and EN108 is Composition II (research); three levels were chosen because they function as variables in determining the appropriateness of CAI.

During the two weeks following notification and scheduling, the mini-course and computer groups completed their respective programs and immediately afterward took as a post-test the paragraph they had not done originally. Again the total number correct and variance of errors was recorded. A post-post test was administered two weeks later to test for retention and provide a control. It was scored in the same manner as the pre- and post-tests. During the entire seven weeks in which the research took place there was, of course, no way to control these students' classroom language experiences. However the four EN078, five EN107, and six EN108 teachers who served as mediators all followed a standard syllabus for their course level, and none covered sentence-combining in class.

In the CAI group, the students sat in a private room and ran through a series of five exercises (see Appendix D for flow chart) with minimal intervention by the researcher. Of course, she was nearby in case of emergency, but the students had a dittoed sheet of instructions for operating the computer and editing their work, which the researcher

had gone over with them before they started. (See Appendix C.) To minimize feelings of isolation, the computer asked the students to type in their names before they began each exercise so the computer could have direct dialogue with them throughout the program:

Hi, my name is Sandy. What's yours?
Type in your name and press the RETURN key.

In Exercise 1 (see Appendix E), the students read a choppy paragraph and a revision of it. Then they studied a series of explanations and examples dealing with subordinate clauses, followed by sections on semantics, case, and punctuation rules for who, which, and that relative clauses. A sample frame is given below:

A subordinate clause is a group of words which has a subject and a verb, just like a complete sentence, but it cannot stand alone because of the "danger word" at the beginning.

S V as the sub S V any clause describing people
"Cindy bought a car (which gets 45 miles per gallon)."

Δ

In Exercise 1, the "danger word"

Then the students attempted a series of thirty sentences with blanks where the subordinator, or "danger word," should be. The computer asked them to select the correct word. For example,

1. My mother, _____ lives alone, still manages to sat active.
 - a. who
 - b. whom
 - c. which
 - d. that

TYPE IN THE LETTER OF YOUR CHOICE AND PRESS THE RETURN KEY.

If they missed five, students could review the rules again; if they missed twenty-one, they were instructed to see a tutor for help. If

they got seven correct, an encouraging message appeared; and when they got ten correct, another encouraging message flashed across the screen with their score:

Congratulations, (name), you've answered 10 sentences correctly out of (total) for a score of (percent). Let's move on to the next exercise.

After each attempt, the computer either told them they were correct or incorrect, gave the right answer in the sentence, together with an explanation, and then any alternative answers. This exercise provided the basis for the rest of the program, because the basic rules were reinforced each time:

Wrong.
 WHICH is used in clauses describing anything BUT people.
 The correct answer is
 My mother, who lives alone, still manages to stay active.
 WHO is used as the subject of any clause describing people.

In Exercise 1 (see Appendix F), the computer instructed the students to change the second word of a pair into a clause, using the given danger word and punctuation, and then insert it into the first sentence immediately following the word or idea described. This is how the question appears to the students:

1. My doctor plays golf every Monday.
 He is very athletic.

TYPE YOUR ANSWER AND PRESS THE RETURN KEY.

?

This time the students had to deal with only ten sentences, but those ten contained examples of restrictive and nonrestrictive uses of most of the

subordinators, inserted in a variety of places in the sentence. In this exercise, if the students missed three, they had the option of reviewing the directions again. If they got seven correct, an encouraging message flashed, and when they got ten correct, it flashed again with their score. Any students who scored a perfect ten out of ten were given a special message of congratulations. Unlike Exercise 1, Exercise 2 gave the students two chances on each exercise, and their first attempt appeared at the top of the screen for reference. Again, the computer eventually gave them the correct sentence:

```
No, (name),
THE CORRECT ANSWER IS >
My mother, who lives alone, still manages to stay active.
YOUR SECOND ANSWER WAS >
My mother, whom lives alone, still manages to stay active.
PRESS THE SPACE BAR TO CONTINUE.
```

Whereas in Exercise 1 the students simply had to type in the letter of their response, Exercise 2 asked the student to type the revised sentences. Therefore, they were given a set of special typing instructions before they began. These instructions included typing a quotation mark before each sentence so the computer would not read their commas as another command and being careful about spelling and spacing, which had to be exact.

In Exercise 3 (see Appendix G), the computer gave the students an eight-sentence paragraph. Two of the sentences were independent (no logical connection to other sentences), and the remaining six could be joined consecutively, using the same clues as in Exercise 2. Of the three pairs, one involved a "who" clause, one a "which" clause, and the

last one, a "that" clause. The computer displayed the whole paragraph again, after the students took their two chances, and inserted the correct sentence. Each consecutive pair appeared in all capitals to make recognition easier, and as before the students' first answer remained as a reference.

I ran away at the age of six to joining the circus, which happened to be in town that day. For the first three hours, I enjoyed wandering around the various sideshows. Then I began to miss my mother, who was probably worried sick. A BIG CLOWN NOTICED MY TEARS AND CALLED HER FOR ME. HE WAS WEARING BAGGY PANTS. (that, 2 commas) Clown have been my favorite part of the circus ever since.

TYPE IN YOUR ANSWER AND PRESS THE RETURN KEY.
?

Finally, the fully revised paragraph appeared, and the students' score out of the three possible combinations flashed and was printed.

Exercise 4 (see Appendix H) was identical to Exercise 3, except that the ten sentences to be combined in a paragraph contained no clues. The researcher carefully chose sentences in which clause placement and punctuation could only be done in a certain way and still make sense, although more than one danger word might be appropriate. Again, the revised paragraph was displayed beside the original at the end:

ISN'T THIS MUCH SMOOTHER?
REVISED

Many families in America must decide whether or not to buy a watchdog, which is something that may be crucial to survival. People who/that live in the country are more than twenty minutes from the nearest police station. A good watchdog can warn them of intruders who/that might be creeping around the lawn. Hearing the dog bark, the family, whom the intruders probably think are sleeping, can turn on all their lights. A watchdog which/that is loyal to its family is worth a lot of money.

ORIGINAL

Many families in America must decide whether or not to buy a watchdog. It is something that may be crucial to survival. People are more than twenty minutes from the nearest police station. They live in the country. A good watchdog can warn them of intruders. The intruders might be creeping around the lawn. Hearing the dog bark, the family can turn on all their lights. The intruders probably think they are sleeping. A watchdog is worth a lot of money. It is loyal to its family.
PRESS SPACE BAR TO CONTINUE

Of course, the students were warned that they should probably not combine every pair of sentences in a real paragraph. At the end of the exercise, the computer printed the students' score out of five possible combinations, and, as in Exercise 3, where there were so few sentences, the only message was the final congratulatory one.

Exercise 5 (see Appendix I) simply asked the students to type in the name of their favorite movie star, and then called them by that name in a cheery message which read, "Surprise! There is no Exercise 5, Marilyn Monroe! I simply wanted to say that I've enjoyed working with you, and I hope you'll use all you've learned about sentence-combining in your own writing." The researcher had originally planned Exercise 5 to be a "create your own paragraph using at least three relative clauses" exercise. Although she entered the exercise on the disk (see Appendix J), she eventually rejected it for a number of reasons: it added twenty minutes to a program which could take no longer than an hour, due to students' class schedules and/or attention spans. Also, students were frustrated by their lack of typing ability. Finally, the researcher decided that the program should be directly related to the post-test, which was an exercise in revision, not creation. Besides, many writers

cannot see or hear choppiness in their first draft anyway, so perhaps revision was the best focus.

While the CAI group was working through their program, the researcher presented the mini-courses to students in the second group. Although one presentation of the mini-course would have been preferable, not enough students attended the first one, so the researcher gave a second the following week at the same time, in the same room, on the same night of the week, attempting to deliver the lecture and encourage discussion in a similar manner. She had the twenty-eight students do exercises identical to the CAI group's, except for Exercise 1, in which she asked them to do a uniform twenty questions instead of stopping individually when each finished ten correctly. Then, as with the CAI group, she gave the post-test immediately after they finished.

II. COLLECTION OF DATA

In both the CAI and min-course settings the researcher recorded several pieces of data. She noted previous typing experience and individual times for completing the CAI program (while the two presentations of the mini-course uniformly took one hour) and any comments the students wished to make about either program. In both types of instruction, the researcher recorded scores on the exercises, pre-tests, post-tests, post-post tests, and variance of errors, in addition to keeping separate logs of observations during the study and during the months of programming. (See Appendix K).

III. TREATMENT OF THE DATA

The researcher gave each variable, including the students' names a code number (for example, types of instruction were labeled 1, 2, or 3) so that the information could be punched onto cards. The data was then analyzed using five tests:

1. "T-test" (scans two variables at a time for significant difference)
2. "Scheffe" (scans multiple variables simultaneously for significance)
3. Compilation of percentage of errors (no significance noted)
4. Two-dimensional analysis of variance (means of two variables only)
5. Analysis of variance (scans two simple variables for significance)

On those tests which did assess significance, the "t-stat" (for the t-test) and the "F-ratio" (for the Scheffe) indicated whether or not the significance was enough to be scientifically noteworthy.

The assessment of significance was based on two tables: for the t-test, a table which indicated t-values for given probability levels was used; for the Scheffe, a table which indicated significant values of f-distribution was used. If the t-stat or F-ratio equaled or exceeded the critical value found in the tables, then a significant difference existed. If the t-stat or F-ratio exceeded the .01 level of significance, then there was a 99% certainty that the variance was not due to chance. If they exceeded the .05 level of significance, then there was a 95% certainty that the variance was not due to chance. A statistical significance of less than .05, however, was not scientifically acceptable. Once significant difference did occur, the researcher could look at the

mean scores for each variable and analyze what had happened. Of course, a finding of no significant variance was noteworthy, too, because it proved that a certain factor, such as being female, had no bearing on the results. (See Appendix L for statistics.)

IV. HYPOTHESES

The researcher recorded twenty-nine coded variables on the data sheet: student's name, type of instruction, class level, sex, scores on Ex. 2, Ex. 3, and Ex. 4, score on Ex. 1 (CAI) or Ex. 1 (mini-course), scores on the pre-test, post-test, and post-post test, error analysis of five separate items on the pre-test, post-test, and post-post test, and previous typing experience/time taken to complete the CAI program. Of these, thirteen items were scored and then evaluated by means of three variables in the following combinations:

1. Sex
2. Class Level
3. Type of Instruction
4. Sex by Class Level
5. Sex by Type of Instruction
6. Class Level by Type of Instruction

For example, when the researcher examined the scores on the pre-test (item #6), the computer manipulated the data using all six of the combinations listed above. Looking at sex by class level (combination #4), the researcher could determine whether a significant difference existed among the scores of males and females at each of the class levels.

Of course, not all of the scored items could be uniformly examined in the six variable combinations. For example, the control group did not

take the post-test, so that mode of instruction (none) could not be included in its analysis. Also, the error scan contained too many variables to be analyzed for significance, so it was recorded in percentages within the six variable combinations. Finally, the researcher did not break typing experience vs time into variable combinations at all; she simply looked at the overall results. These analyses resulted in 49 hypotheses, which the researcher proposed in "null form," i.e., with the assumption of no significance.

Exercise 1 (CAI)

1. On Exercise 1 of the CAI program, there will be no significant difference between the scores of males and females.
2. On Exercise 1 of the CAI program, there will be no significant difference between the scores of subjects at different class levels.
3. On Exercise 1 of the CAI program, there will be no significant difference between the scores of males and females at different class levels.

Exercise 1 (Mini-Course)

1. On Exercise 1 of the mini-course, there will be no significant difference between the scores of males and females.
2. On Exercise 1 of the mini-course, there will be no significant difference between the scores of subjects at different class levels.

3. On Exercise 1 of the mini-course, there will be no significant difference between the scores of males and females at different class levels.

Exercises 2-4

1. On Exercises 2-4, there will be no significant difference between the scores of males and females.
2. On Exercises 2-4, there will be no significant difference between the scores of subjects at different class levels.
3. On Exercises 2-4, there will be no significant difference between the scores of subjects in the mini-course and CAI groups.
4. On Exercises 2-4, there will be no significant difference between the scores of males and females at different class levels.
5. On Exercises 2-4, there will be no significant difference between the scores of males and females in the mini-course and CAI groups.
6. On Exercises 2-4, there will be no significant difference between the scores of subjects at different class levels in the mini-course and CAI groups.

Pre-Test

1. On the pre-test, there will be no significant difference between the scores of males and females.
2. On the pre-test, there will be no significant difference between the scores of subjects at different class levels.

3. On the pre-test, there will be no significant difference between the scores of subjects in the mini-course, CAI, and control groups.
4. On the pre-test, there will be no significant difference between the scores of males and females at different class levels.
5. On the pre-test, there will be no significant difference between the scores of males and females in the mini-course, CAI, and control groups.
6. On the pre-test, there will be no significant difference between the scores of subjects at different class levels in the mini-course, CAI, and control groups.

Post-Test

1. On the post-test, there will be no significant difference between the scores of males and females.
2. On the post-test, there will be no significant difference between the scores of subjects at different class levels.
3. On the post-test, there will be no significant difference between

the scores of males and females in the mini-course and CAI groups.

the scores of males and females in the mini-course and CAI groups.

6. On the post-test there will be no significant difference between the scores of subjects at different class levels in the mini-course and CAI groups.

Post-Post-Test

1. On the post-post-test, there will be no significant difference between the scores of males and females.
2. On the post-post-test, there will be no significant difference between the scores of subjects at different class levels.
3. On the post-post-test, there will be no significant difference between the scores of subjects in the mini-course, CAI and control groups.
4. On the post-post-test, there will be no significant difference between the scores of males and females at different class levels.
5. On the post-post-test, there will be no significant difference between the scores of males and females in the CAI, mini-course, and control groups.
6. On the post-post-test, there will be no significant difference between the scores of subjects at different class levels in the mini-course, CAI, and control groups.

Pre-Test Error Analysis

1. On the pre-test, there will be no significant difference in the error analysis of males and females.
2. On the pre-test, there will be no significant difference in the error analysis of subjects at different class levels.
3. On the pre-test, there will be no significant difference in the error analysis of subjects in the mini-course, CAI, and control groups.

4. On the pre-test, there will be no significant difference in the error analysis of males and females at different class levels.
5. On the pre-test, there will be no significant difference in the error analysis of males and females in the mini-course, CAI, and control groups.
6. On the pre-test, there will be no significant difference in the error analysis of subjects at different class levels in the mini-course, CAI, and control groups.

Post-Test Error Analysis

1. On the post-test, there will be no significant difference in the error analysis of males and females.
2. On the post-test, there will be no significant difference in the error analysis of subjects at different class levels.
3. On the post-test, there will be no significant difference in the error analysis of subjects in the mini-course and CAI groups.
4. On the post-test, there will be no significant difference in the error analysis of males and females at different class levels.
5. On the post-test, there will be no significant difference in the error analysis of males and females in the mini-course and CAI groups.
6. On the post-test, there will be no significant difference in the error analysis of subjects at different class levels in the mini-course and CAI groups.

Post-Post-Test Error Analysis

1. On the post-post-test, there will be no significant difference in the error analysis of males and females.
2. On the post-post-test, there will be no significant difference in the error analysis of subjects at different class levels.
3. On the post-post-test, there will be no significant difference in the error analysis of subjects in the mini-course, CAI, and control groups.
4. On the post-post-test, there will be no significant difference in the error analysis of males and females at different class levels.
5. On the post-post-test, there will be no significant difference in the error analysis of males and females in the mini-course, CAI, and control groups.
6. On the post-post-test, there will be no significant difference in the error analysis of subjects at different class levels in the mini-course, CAI, and control groups.

Typing vs Time

1. In the computer group, there will be no significant correlation between the length of time to complete the program and previous typing experience.

Chapter 4

ANALYSIS OF RESULTS

I. STATISTICAL ANALYSIS

According to the data analysis (see Appendix L), the average results in this study were that on the majority of the scored items, females did better than males in both the CAI and mini-course settings, the three class levels scored progressively higher (EN078->EN108) in both, and the mini-course group did better than the CAI group, who did better than the control group. Three factors are crucial, however, in examining these general results. Most importantly, only fifteen were statistically significant; however, the regularity with which the remaining combinations showed the same outcome to a lesser degree cannot be ignored. Second, the variation between mean scores, although significant, might have been only a matter of earning two more points on a given exercise. Finally, in an analysis of three or more variables (for example, the three class levels), a significant difference can be proven only between the highest and lowest score; therefore, one must remember to insert mentally the third variable between the other two.

The fifteen test scores which did significantly prove the above results are as follows:

- Exercise 1 Mini-course (Comparison of Sex)
Females did better than males with 95% certainty.
- Exercise 1 Mini-course (Comparison of Sex by Class Level)
Females did better than males with 95% certainty.

- Exercise 2 (Comparison of Sex by Class Level)
Females did better than males with 99% certainty.
- Exercise 3 (Comparison of Class Level)
EN108 did better than EN078 with 99% certainty.
- Exercise 3 (Comparison of Sex by Class Level)
EN108 did better than EN078 with 99% certainty.
- Exercise 3 (Comparison of Class Level by Type of Instruction)
EN108 did better than EN078 with 95% certainty.
- Exercise 4 (Comparison of Class Level)
EN108 did better than EN078 with 99% certainty.
- Exercise 4 (Comparison of Type of Instruction)
Mini-course did better than CAI with 99% certainty.
- Exercise 4 (Comparison of Sex by Class Level)
EN108 did better than EN078 with 99% certainty.
- Exercise 4 (Comparison of Sex vs Type by Instruction)
Mini-course did better than CAI with 95% certainty.
- Exercise 4 (Comparison of Class Level by Type of Instruction)
EN108 did better than EN078 with 99% certainty.
- Exercise 4 (Comparison of Class Level by Type of Instruction)
Mini-course did better than control with 95% certainty.
- Post-Post Test (Comparison of Type by Instruction)
Mini-course did better than control with 95% certainty.
- Post-Post Test (Comparison of Sex by Type of Instruction)
Mini-course did better than control with 95% certainty.
- Post-Post Test (Comparison of Class Level by Type of Instruction)
Mini-course did better than control with 95% certainty.

of course, results on other tests showed similar results on the scored items, but they can only be acknowledged generally because they were not significant.

Thirteen test scores deviated from the average, and two of these did so significantly:

- Exercise 2 (Comparison of Sex by Class Level)
EN107 did better than EN078 with 99% certainty.
- Exercise 2 (Comparison of Class Level by Type of Instruction)
EN107 did better than EN078 with 95% certainty.

Eleven others did so with no significance:

- Pre-Test (Comparison of Class Level)
EN108 did better than EN107.

- Pre-Test (Comparison of Type of Instruction)
Control did better than CAI.
- Pre-Test (Comparison of Sex by Class Level)
EN108 did better than EN107.
- Pre-Test (Comparison of Sex by Class Level)
Males did better than females.
- Pre-Test (Comparison of Sex by Type of Instruction)
Control did better than CAI.
- Pre-Test (Comparison of Sex by Type of Instruction)
Males did better than females.
- Pre-Test (Comparison of Class Level by Type of Instruction)
Control did better than CAI.
- Pre-Test (Comparison of Class Level by Type of Instruction)
EN108 did better than EN107.
- Post-Test (Comparison of Class Level)
EN108 did better than EN107.
- Post-Test (Comparison of Sex by Class Level)
EN108 did better than EN107.
- Post-Test (Comparison of Class Level by Type of Instruction)
EN108 did better than EN107.

Because there were so many variables involved in the error analyses of the three diagnostic paragraphs, a computer scan would have been difficult. Instead, the researcher renamed the error analyses "informal assertions" and looked at the percentage of errors rather than t-stats or F-ratios. By looking at the frequency of error occurrence based on the eighteen variable combinations listed in the hypotheses, the researcher could draw some informal conclusions about major patterns of error occurrence in both the CAI and mini-course settings. Overall, three errors occurred most often in the pre-tests:

1. Use of incorrect subordination (especially "whom")
"He also has a picture of my sister who he caught in the shower."
2. Retention of excess noun or pronoun
"He also has a picture of my sister whom he caught her in the shower."
3. Use of alternative connection
"He also has a picture of my sister and he caught her in the shower."

The other two kinds of errors were equally split between the sexes.

Females tended to use more illogically placed subordinators than males; however, males tended to use more grammatically incorrect alternative connections:

1. Illogically placed subordinator
"He also has a picture of my sister. He caught who in the shower."
2. Grammatically incorrect alternative connection
"He also has a picture of my sister, he caught her in the shower."

From the alternative subordination errors alone, the researcher could see other distinctions; the EN078 class level and the control group both took longer to correct these in their revisions. In an overall analysis of errors by class level, the EN108 group's post-post tests were more error-free than those of any other class levels. Finally, looking at modes of instruction alone, the researcher could see that the mini-course group as a whole did better at eliminating excess pronouns and incorrect subordinators from their second and third diagnostics, although this last error remained the most prominent on all of the subjects' post- and post-post-tests.

Finally, on the correlation test for typing experience vs time required to finish the CAI program, the researcher found no significance.

II. RESPONSE ANALYSIS

Underlying reasons for some of the results in this study will be examined. Many child psychologists have asserted that female children do better in language arts, and males do better in mathematics and

engineering. The researcher noticed this tendency in her own composition classes, so she was not surprised to see it carry over to the freshmen in this study in both the CAI and mini-course groups. She also expected EN108 students to do better in both. In order to move into the upper composition classes, students must exhibit overall skill in writing, as well as a basic understanding of the processes involved, so higher class levels should earn higher scores. Finally, although the researcher expected the control group to do worse, she had not anticipated the mini-course group doing better than the CAI group. This difference was perhaps due in part to the frustration the CAI group felt about having to reproduce answers exactly.

The above conclusions were not valid in only three instances: (1) on Exercise 2, in which the EN107 group did better than the EN108 group; (2) on the pre-test, in which the EN078 group did better than the EN107 group, the control group did better than the CAI group, and males did better than females; (3) on the post-test, in which the EN078 group did better than the EN107 group once again. This situation might have happened for a variety of reasons. On Exercise 2, perhaps EN107 students did better because that class level focuses more on writing processes, whereas EN108 focuses on research. The researcher could not explain the almost complete deviation from the norm on the pre-test. Although ideally the groups should have been better balanced, circumstances made this balance unattainable. However, this imbalance made the final results even more significant. Finally, the EN078 group may have scored higher on the post-test than the EN107 group because classes at the EN078 level do more in-depth language study and may have been accustomed to

drill and practice. This superiority, however, did not hold true in the retention phase; on the post-post test, the overall scores again fell into the expected categories with EN108 ranking highest.

The researcher feels that because these deviations did not exist in the majority of the scored items, because the only significant deviations involving sex and class level occurred in Exercise 2, and because significant variation may have been only a matter of one or more questions answered correctly, perhaps sex and class level need not be a major limitation in allowing students to use this program. Also, since the mini-course group scored significantly higher than the CAI group on only one scored item (Exercise 4), perhaps the particular needs and attitudes of the students are more important considerations than the type of instruction. This hypothesis will be explored more fully under "Observations."

From the informal results of the error analysis, the researcher made certain assumptions. Apparently, from the frequency of errors on the pre-test, students are not aware of the semantic rules governing relative subordinators, especially "whom," the use of which many say is fading from the language anyway. Also, they are not aware of the structure of subordinate clauses, evident in the retention of the excess pronoun. Finally, the alternative-connection problem may have been a matter of not following directions, as well as of lack of knowledge about subordinate clauses. The EN078 class level seemed to employ alternative connection most frequently, and if the problem was following directions, then the instructions should have been presented more simply.

The control group had the same problem. Due to no remediation experience, they were not aware of the focus of the study.

Both males and females exhibited grammatically incorrect constructions in the pre-test, but these gradually disappeared after the mini-course and CAI programs. This was not true of the control group.

Since the mini-course group did better overall on the scored items (although only significantly on Exercise 4), the researcher was not surprised that their number of incorrect-subordinator and excess-pronoun errors on the final tests was lower than the CAI and control groups'. Better absorption meant better retention.

Finally, because there were still a large number of incorrect subordinator errors on all of the subjects' final tests, the researcher concluded that the section on semantics in the programs may have been too difficult to remember. With all of the examples following the rules, perhaps the amount of information was overwhelming.

The last area, typing experience vs time needed to finish the CAI program, showed no significant patterns. Although 67% of the CAI students claimed previous typing experience, the most frequent complaint was the required typing. Perhaps the problem lay in having to reproduce the answer exactly for the computer to accept it, rather than typing skill in general. The results of a subsequent survey of these students' reactions to CAI added further support to this theory. (See Appendix N.) According to the students' answers on the questionnaire, only three had never touched a computer before, whether in a programming course, through CAI in another class, or even on a video machine, yet several of those who claimed typing experience did not feel they were good typists. The

students' overwhelming positive opinion of CAI indicated that perhaps they only lacked more exposure to it in order to improve their typing skills to the point where they could concentrate solely on the subject matter.

III. OBSERVATIONS DURING THE STUDY

The researcher noted many of the same advantages and disadvantages of CAI that previous researchers had when she compared student comments and her own observations from the mini-course and CAI sessions. During the CAI sessions many students complained that they had a hard time remembering directions, even though they had a number of opportunities to refer back to them. Also, some said that they needed to review the usage rules again later in the program, after they had supposedly absorbed all of the background information. Others admitted that using a machine made them nervous, because they were afraid of hitting the wrong key. Three stated that they could sit still for only twenty minutes, and that one hour was too long for a program. Also, at least two students felt isolated and angry because they could not ask the machine questions. By far, however, the biggest complaint was the typing required. Ten students remarked that they felt it was unfair for their answers to be counted incorrect because of a spacing error or because they had not followed the clause placement instructions exactly. Besides this complaint, many pointed out that if the typing had not been so strictly enforced, the program would have taken them half the time.

On the positive side, several students said that the program was easy to follow, fun, and that they felt they had learned something. They liked moving at their own pace and especially enjoyed the machine's "personality," evident in the joke in Exercise 5 and in computer dialogue like "Relax! I'm going to give you some examples first!" All but one of the students said that they would not mind this kind of instruction as a supplement to their regular classes. This statement applies to all class levels, because these remarks did not fall into any class level or sex pattern; students gave them randomly.

The mini-course sessions, like the CAI sessions, exhibited advantages and disadvantages. The students liked the opportunity to ask questions and the face-to-face interaction. They could also refer to the rules at will and disagree with the instructor if they desired, in addition having both visual and auditory reinforcement. On the other hand, several appeared frustrated about having to wait for everyone to finish a section before discussing it, and they had ample opportunities to cheat. In fact, the researcher had to double-check all of their scores. Finally, some students never volunteered an answer because they seemed to be uncomfortable competing with their classmates.

From these observations, the researcher could see that neither human instruction nor CAI is free of problems and that some of the complaints are inevitable. Although repeated exposure to CAI might alleviate some of them, the only way the researcher could help might be to simplify the directions in the exercises and give the program even friendlier dialogue.

IV. PROGRAMMING LOG

Before testing her program, the researcher went through a frustrating yet rewarding experience of learning to use a computer. She began with no concept of how complicated and time-consuming the process would be, went through a period of insecurity and irritation about having to depend on others for help and cooperation, and finally began to notice programming patterns and learn the logic involved to the extent that she could do her own editing and even creating. She also learned some basic safeguards, like making five copies of the program to insure its survival. Stylistically, she grappled with wording problems, screen construction, criticism by live subjects, and the constant pressure to stay away from mere textbook drill. She also had to deal with the tedious job of generating sentences and typing in the program itself onto the disk. The total process of creation took 160 hours.

Finally, the researcher learned that a program can always be improved or modified for a different audience. For example, after Suzanne Achleitner, an instructor of international students at Emporia State University, had asked some of her students to run through the program to see if it had ESL potential, she told the researcher that "danger word" was an unacceptable substitute for "subordinator" and that the joke in Exercise 5 would be insulting to foreign students. Also, she pointed out that her students had not had enough practice combining without clues. Although no international students were involved in the study, this problem may have existed for the researcher's American students, too, since most of them did worse on the last exercise. The

researcher inserted a new Exercise 4 between Exercise 3 and the old one containing the paragraph without clues, now called Exercise 5. (See Appendix M.) This adjustment was made so that future users could have the benefit of more practice.

As a whole, the process of learning to program is more complicated than a novice might expect; however, this last example is perhaps the best illustration of the overall benefit of such an experience if one has a good teacher. Not only was the researcher able to design the new exercise, but she programmed it into the computer and "debugged" it entirely on her own. This proved that she had gained a basic familiarity with computers and could apply her programming knowledge.

In summary, each of the three sections of data contributed to a more complete perspective of the results. The statistical data provided clues to any patterns which might have occurred among the variables. The observation section compared the advantages and disadvantages of both CAI and the mini-course from the teacher's and student's viewpoints, and finally, the programming log illustrated the process of learning to use a computer, highlighting the pitfalls and triumphs.

Chapter 5

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

I. GENERAL SUMMARY

Of the three categories of data, the researcher concludes from the statistical results on almost all of the exercises and the final test, that females surpassed males, and upper class levels did better than lower class levels in both CAI and the mini-course, and, that human instruction was more effective than computer-aided instruction overall. The most frequent errors on both groups' diagnostic paragraphs were incorrect choice of subordinator, retention of the excess pronoun, and inattention to directions (using an alternative connection). The EN108 group did the best overall in absorption and retention, while the EN078 group had the most trouble following directions in many sections. Also, the mini-course group averaged fewer errors than the CAI group. Finally, typing experience did not prove to be a significant factor in time needed to complete the CAI program.

From personal observations, the researcher noted that the major trouble with CAI was the requirement to reproduce detail exactly. Also, some students complained about the hard-to-remember rules and directions, as well as a sense of isolation. More positively, many enjoyed the self-paced learning, "personality" of the machine, and novelty.

During the mini-course, students liked the freedom to ask questions and refer back to other exercises and the rules section at will. However, the researcher also found that several disliked two things: (1) waiting for the entire class to finish before discussing a question and (2) competing to answer questions aloud. Besides this, the researcher had to double-check scores for cheating.

From the programming log, the researcher noted that learning to use a computer can be a long, challenging process. It involves acquiring a new machine language, creating an interesting yet acceptable learning progression, using live subjects to test clarity, and logging in hours upon hours of typing and revision. However, with a good instructor and a great deal of practice, an English teacher can eventually become an independent programmer.

II. CONCLUSIONS

The researcher could draw several overall conclusions from the patterns which occurred in both the CAI and mini-course setting. From her experiences as a composition instructor, as well as from assertions by child psychologists, she expected the female superiority in language arts from childhood to carry over into the freshman level of college. Next, one possible reason for the superiority of the higher class levels might be that the upper levels are more aware of the processes of language. Third, the mini-course group may have done better than the CAI group simply because the latter had to cope with a new medium as well as a new concept. Finally, because most of the deviations from these norms

occurred in the pre-test and were not consistent everywhere, the researcher concluded that perhaps they were due to chance or, as in the case of the EN078 groups doing better on Exercise 2, to one class level's being more accustomed to drills.

From the three most common errors on the diagnostic paragraphs, this researcher could see that frequent occurrence of an incorrect subordinator and retention of the excess pronoun, even in the tests following remediation, showed that the students had missed that concept somewhere in their remediation. The superiority of the EN108 scores, as well as the EN078 group's inability to follow directions, coincided with the average results regarding class level progression. The same was true for the mini-course group averaging fewer errors overall; better scores indicated better absorption and retention. Finally, because there was no significant correlation between the scores of the 67% of the CAI subjects who claimed previous typing experience and the 33% who did not, the researcher concluded that inexperience with the computer itself may have been the cause.

From the results of personal observations, the researcher could see that neither the CAI nor the mini-course settings were completely fault-free. Had the mini-course produced not only higher scores but also no complaints, there would have been little doubt about its superiority over CAI. However, because the scores were so close and because some of the CAI problems could be resolved with repeated use, perhaps the two modes of instruction should at least be used in conjunction. Certainly further studies need to be done.

Finally, the researcher concluded from her programming log that learning to use a computer requires one ingredient which is more important than all of the rest: a patient, well-informed teacher. Without this, many a new computer enthusiast might easily give up.

III. IMPLICATIONS

From the results of the scored items, the researcher noted that, although the subjects experienced various degrees of success, the overall difference was only a matter of a few points or not highly significant in the first place. This observation would indicate that perhaps sex and class level should not be major considerations in selecting students to use this particular CAI program. Also, even though students did better in the mini-course than with the CAI, the same incidental point difference existed, as well as the possibility that more exposure to CAI might alleviate some of the typing and attitude problems, thus freeing the student to concentrate on learning. Therefore, rather than considering sex, class level, or mode of instruction, perhaps a more effective focus would be student needs. For example, those who feel alienated by a machine are not good candidates; however, those who have the interest and adaptability should be encouraged to familiarize themselves with the computer with frequent practice.

The log showed that, having passed through the stages of new programmer to more experienced programmer, the researcher could very likely teach others to do the same. Part of the process of maintaining enthusiasm and willingness when teaching someone to program is pointing out

patterns in machine language as soon as possible to minimize the feeling that there is too much to remember. Another strategy would be allowing hands-on experience from the start to show the new learner that one accidentally pushed button does not mean automatic destruction of the program. Finally, instilling the idea that there are a variety of approaches to teaching any concept is important, and before attempting to create a program on her own, a programmer should familiarize herself with other philosophies, learning progressions, and presentations.

On a broader scale, this study has other implications as well. The researcher limited the study to one aspect of composition, because concentrating on one skill at a time is the most effective way to attack major writing problems. Certainly, this approach has been the researcher's experience as a tutor in ESU's Writing Lab. A student could take an error analysis done by his instructor to the Lab and choose one writing skill to conquer during each session: sentence fragments, pronoun reference problems, comma splices, for example. If he could adapt to a machine as his instructor, then, while he was busy on his own, the Lab staff would be free to tutor other students, and his teacher would be free from the tedium of giving him drill and practice remediation in class, something she may not have had time for in the first place.

IV. SUGGESTIONS FOR FUTURE RESEARCH

Having read the landmark studies from the past on sentence-combining, the researcher attempted to duplicate the scientific precision on which many of them were based. For example, she maintained a control group,

limited the study to two weeks in an effort partially to alleviate outside language experiences, and kept careful records of as many pieces of data as she could. However, if she had had the time and opportunity, she would have dealt with many aspects differently.

If possible, she would have preferred more control over subjects and equipment. Participation of several classes might have made scheduling easier, as well as give the researcher more control of outside language experiences. Also, if more subjects had been available, a difference in the results of some of the more complex variable combinations might have surfaced. For example, the EN107 females in the mini-course only numbered five; more in this category might have changed the results. Finally, the availability of more computers certainly would have shortened the length of the experiment and also given students more practice, hence eliminating some of their "computer-phobia."

The researcher would have liked the opportunity to examine certain variables in the study more fully, too. Had there been 300 subjects, perhaps the results of the sex and class level scans might have been different; in fact, the researcher had originally wondered if EN078 students might dislike being separated from human encouragement. And certainly, adding more questions to the exercises as well as to the diagnostic paragraphs might have shown a clearer delineation of these factors, rather than a difference of one or two points.

Finally, if the researcher had had time to test the program on at least fifteen subjects instead of the five she used, perhaps she might have noticed the problem which Suzanne Achleitner pointed out: the students did not have enough practice combining without punctuation or

subordinator clues. Also, she might have been able to simplify the rules and directions before the study began.

Although this study covered many aspects of sentence-combining, areas are still left to explore. The researcher did not find any previous literature about CAI for international students in the English classroom, nor did she find much about sex and class level. Someone could certainly adapt one of the sentence-combining textbooks, Strong's for example, to a computer program, and there are parts of the writing process which could be adapted to programs, too. Also, since the goal of sentence-combining is to improve composition, a study such as this might have used essays as pre-tests and post-tests for a clearer view of retention. With more control of subjects, this retention could be tested after a year, too.

Outside the writing classroom, another valuable investigation might deal with the "computer-phobia" which students experience upon first entering CAI. Finally, an evaluation of the components of an effective machine "personality" might be interesting. In a fairly new field, the possibilities for research are limitless.

V. CONCLUSION STATEMENT

Computer-aided instruction can be a godsend for harrassed, over-worked teachers in the writing classroom, as well as almost any discipline, as long as it is appropriate for the individual student. Perhaps Christine Doerr summarized the concept best, however, when she said that no matter how good a program is, it can never take the place

of a pat on the back. Together, the instructor and the machine can be a powerful pair in the modern world of education.

ENDNOTES

ENDNOTES

- ¹ R. J. Harris, "An Experimental Inquiry into the Functions and Value of Formal Grammar in the Teaching of English with Special Reference to the Teaching of English to Children Age Twelve to Fourteen," Diss. University of London 1962.
- ² K. W. Hunt, Grammatical Structure Written at Three Grade Levels: Research Report #3 (Urbana, Illinois: NCTE, 1965), p. 21.
- ³ R. C. O'Donnell, N. J. Griffin, and R. C. Norris, Syntax of Kindergarten and Elementary School Children: A Transformational Analysis: Research Report #8 (Urbana, Illinois: NCTE, 1967).
- ⁴ John Mellon, Transformational Sentence-Combining: A Method for Enhancing the Development of Syntactic Fluency in English: Research Report #10 (Champaign, Illinois: NCTE, 1969).
- ⁵ Richard M. Weaver, "Some Rhetorical Aspects of Grammatical Categories," in Teaching of High School Composition, ed. Gary Tate and Edward P. J. Corbett (New York: Oxford University Press, 1970), pp. 168-69.
- ⁶ Robert R. Potter, "Sentence Structure and Prose Quality: An Exploratory Study," in Teaching of High School Composition, ed. Gary Tate and Edward P. J. Corbett (New York: Oxford University Press, 1970), p. 178.
- ⁷ Potter, p. 182.
- ⁸ William Strong, Sentence-Combining: A Composing Book (New York: Random House, 1973).
- ⁹ Frank O'Hare, Sentence-Combining: Improving Student Writing Without Formal Grammar Instruction: Research Report #15 (Urbana, Illinois: NCTE, 1976), pp. 5-18.
- ¹⁰ O'Hare, pp. 33-38.
- ¹¹ O'Hare, pp. 42-52.
- ¹² O'Hare, p. 36.
- ¹³ O'Hare, pp. 76-77.
- ¹⁴ James W. Ney, "The Hazards of the Course: Sentence-Combining in Freshman English," The English Record, No. 27 (Summer/Autumn 1976), p. 76.

15 Donald Daiker, Andrew Kerek, and Max Morenberg, "Sentence-Combining and Syntactic Maturity in Freshman English," College Composition and Communication, 29 (1978), 30.

16 James W. New, "Response to Donald A. Daiker, Andrew Kerek, and Max Morenberg's 'Sentence-Combining and Syntactic Maturity in Freshman Composition,'" College Composition and Communication, 29 (1978), 30.

17 Donald A. Daiker, Andrew Kerek, and Max Morenberg, The Writer's Options: College Sentence-Combining (New York: Harper & Row Publishers, 1979), p. 5.

18 Daiker, Kerek, and Morenberg, The Writer's Options: College Sentence-Combining, pp. 17-29.

19 Daiker, Kerek, and Morenberg, The Writer's Options: College Sentence-Combining, pp. 207-351.

20 Gary Tate and Edward P. J. Corbett, eds., The Writing Teacher's Sourcebook (New York: Oxford University Press, 1981), p. 157.

21 William Strong, Teacher's Edition: Sentence-Combining and Paragraph Building (New York: Random House, 1981).

22 Francis Christensen, "A Generative Rhetoric of the Sentence," in The Writing Teacher's Sourcebook, ed. Gary Tate and Edward P. J. Corbett (New York: Oxford University Press, 1981), p. 33.

23 Charles R. Cooper, "An Outline for Writing Sentence-Combining Problems," in The Writing Teacher's Sourcebook, ed. Gary Tate and Edward P. J. Corbett (New York: Oxford University Press, 1981), pp. 371-78.

24 John Clifford and Robert F. Waterhouse, Sentence-Combining: Shaping Ideas for Better Style (Indianapolis, Indiana: Bobbs-Merrill Educational Publishers, 1983), pp. vii-ix.

25 The following sources appear chronologically in the paragraph: Floyd Watkins, William B. Dillingham, and Edwin T. Martin, Practical English Handbook, 4th ed. (Boston: Houghton Mifflin Co., 1974), p. 29; Jim W. Corder, Handbook of Current English, 5th ed. (Glenview, Illinois: Scott, Foresman, and Co., 1978), p. 92; John Halverson and Mason Cooley, Principles of Writing (New York: The Macmillan Co., 1965), p. 20; "Who," American Heritage Dictionary, 1982 college ed.; "Which," American Heritage Dictionary, 1982 college ed.; "That," American Heritage Dictionary, 1982 college ed.; Helen Mills, Connecting and Combining in Sentence and Paragraph Writing (Glenview, Illinois: Scott, Foresman, and Co., 1982), pp. 137-38

26 The following sources appear chronologically in the paragraph: John C. Hodges and Mary E. Whitter, Harbrace College Handbook, 9th ed. (New York: Harcourt Brace Jovanovich, Inc., 1982), p. 62; Frederick Crews, Random House Handbook (New York: Random House, 1974), p. 189; Corder, p. 99; Langdon Elsbree, Neil G. Altizer, and Paul V. Kelly, The Heath Handbook of Composition, 10th ed. (Lexington, Mass.: D. C. Heath and Co., 1981), p. 406; Halverson and Cooley, p. 20; "Who," American Heritage Dictionary.

27 The following sources appear chronologically in the paragraph: Watkins, Dillingham, and Martin, p. 29; Elsbree, Altizer, and Kelly, p. 258; William W. Watt, A Short Guide to English Usage (New York: The World Publishing Co., 1967), p. 96; Halverson and Cooley, p. 188; Mills, p. 139; Crews, p. 189; "Which," American Heritage Dictionary; Corder, p. 92; "That," American Heritage Dictionary.

28 The following sources appear chronologically in the paragraph: John M. Kierzek and Walker Gibson, A Handbook of Writing and Revision (New York: The Macmillan Co., 1965), p. 188; Mills, p. 145.

29 Clifford and Waterhouse, pp. 122-42.

30 Mills, pp. 137-49.

31 Daiker, Kerek, and Morenberg, The Writer's Options: College Sentence-Combining, pp. 17-29.

32 Lynn Quitman Troyka and Jerrold Nudelman, Steps in Composition, 3rd ed. (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1982), p. 73.

33 J. R. Hartley, "An Appraisal of Computer-Assisted Education in the United Kingdom," in AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning (New York: Kogan Page, London/Nichols Publishing Co., 1981), pp. 30-31.

34 Christine Doerr, Microcomputers and the 3 R's: A Guide for Teachers (Not to Mention History, Social Studies, Biology, Foreign Languages, Political Science, Chemistry, . . .) (Rochelle Park, New Jersey: Hayden Book Company, Inc., 1979), p. 3.

35 H. F. Rahmlow, "Opportunities and Pitfalls in Computer-Based Educational Networks," in AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning (New York: Kogan Page, London/Nichols Publishing Co., 1981), pp. 133-35.

36 N. J. Rushby, E. B. James, and J. S. A. Anderson, "A Three-Dimensional View of Computer-Based Learning in Continental Europe," in AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning (New York: Kogan Page, London/Nichols Publishing Co., 1981), p. 22.

- 37 Doerr, pp. 118-21.
- 38 Rahmlow, pp. 133-35.
- 39 Robert Levin and Claire Doyle, "The Microcomputer in the Writing/Reading/Study Lab," I.H.E. Journal, Feb. 1983, pp. 77-78.
- 40 Deborah Holdstein, "Computerized Instruction in Writing at the Illinois Institute of Technology: Practice Editing and Motivation for the Engineering Student," Writing Lab Newsletter, ed. Muriel Harris, 8, No. 7 (1984), 7.
- 41 Doerr, p. 13.
- 42 John S. A. Anderson, intro. to AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning (New York: Kogan Page, London/Nichols Publishing Co., 1981), p. 7.
- 43 The following sources appear chronologically in the paragraph: Hartley, p. 31; Rahmlow, pp. 134-35; Holdstein, p. 100.
- 44 The following sources appear chronologically in the paragraph: Hartley, p. 31; Rahmlow, p. 135; G. Kearsley, B. Hunter, and R. J. Seidel, "Two Decades of Computer-Based Instruction Projects: What Have We Learned?" I.H.E. Journal, Jan. 1983, p. 90; Anderson, p. 7.
- 45 Doerr, p. 3.
- 46 Rushby, James, and Anderson, pp. 18-23.
- 47 Doerr, p. 23.
- 48 The following sources appear chronologically in the paragraph: Anderson, p. 7; Karl L. Zinn, "An Overview of Computer-Aided Learning in the USA," in AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning (New York: Kogan Page, London/Nichols Publishing Co., 1981), p. 47; Kearsley, Hunter, and Seidel, p. 90.
- 49 William Oates, "An Evaluation of Computer-Aided Instruction for English Grammar Review," Studies in Language Learning, 3 (1981), 193-200.
- 50 The following sources appear chronologically in the paragraph: Anderson, p. 7; Hartley, pp. 35-40; Holdstein, p. 6; William Wresch, "Computers in the English Class: Finally Beyond Grammar and Spelling Drills," College English, 44 (1982), 486; Helen J. Schwartz, "Monsters and Mentors: Computer Applications for Humanistic Education," College English, 44 (Feb. 1982), 144; Constance Curtin, "Advice to the Author," The Computing Teacher, Jan. 1982, p. 42.

51 The following sources appear chronologically in the paragraph: Zinn, p. 47; Wresch, p. 484; G. Pask, "Conversational Techniques in Study and Practice of Education," British Journal of Educational Psychology, 46 (1976), 12-25; Schwartz, p. 43; Curtin, p. 42; M. Leiblum, "Structuring Computer-Assisted Learning in a University Environment," in AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning (New York: Kogan Page, London/Nichols Publishing Co., 1981), p. 96.

52 The following sources appear chronologically in the paragraph: Holdstein, p. 6; Hartley, p. 33; Schwartz, p. 144.

53 Curtin, p. 42.

54 Schwartz, pp. 150-51.

55 Holdstein, p. 6.

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BIBLIOGRAPHY

BIBLIOGRAPHY

- Anderson, John S. A. Intro. to AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning. New York: Kogan Page, London/Nichols Publishing Co., 1981, p. 7.
- Christensen, Francis. "A Generative Rhetoric of the Sentence." In The Writing Teacher's Sourcebook. Ed. Gary Tate and Edward P. J. Corbett. New York: Oxford University Press, 1981, pp. 353-67.
- Clifford, John and Robert F. Waterhouse. Sentence-Combining: Shaping Ideas for Better Style. Indianapolis, Indiana: Bobbs-Merrill Educational Publishers, 1983.
- Cooper, Charles R. "An Outline for Writing Sentence-Combining Problems." In The Writing Teacher's Sourcebook. Ed. Gary Tate and Edward P. J. Corbett. New York: Oxford University Press, 1981, pp. 368-78.
- Corder, Jim W. Handbook of Current English. 5th ed. Glenview, Illinois: Scott, Foresman, and Co., 1978.
- Crews, Frederick. Random House Handbook. New York: Random House, 1974.
- Curtin, Constance. "Advice to the Author." The Computing Teacher, Jan. 1982, p. 42.
- Daiker, Donald, Andrew Kerek, and Max Morenberg. "Sentence-Combining and Syntactic Maturity in Freshman English." College Composition and Communication, 29 (Feb. 1978), 36-41.
- . The Writer's Options: College Sentence-Combining. New York: Harper and Row Publishers, 1979.
- Doerr, Christine. Microcomputers and the 3 R's: A Guide for Teachers (Not to Mention History, Social Studies, Biology, Foreign Languages, Political Science, Chemistry, . . .). Rochelle Park, New Jersey: Hayden Book Company, Inc., 1979.
- Elsbree, Langdon, Neil G. Altizer, and Paul V. Kelly. The Heath Handbook of Composition. 10th ed. Lexington, Mass.: D. C. Heath and Co., 1981.
- Halverson, John, and Mason Cooley. Principles of Writing. New York: The Macmillan Co., 1965.

- Harris, R. J. "An Experimental Inquiry into the Functions and Value of Formal Grammar in the Teaching of English with Special Reference to the Teaching of English to Children Age Twelve to Fourteen." Diss. University of London, 1962.
- Hartley, J. R. "An Appraisal of Computer-Assisted Education in the United Kingdom." In AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning. New York: Kogan Page, London/Nichols Publishing Co., 1981, pp. 30-43.
- Hodges, John C., and Mary E. Whitter. Harbrace College Handbook. 9th ed. New York: Harcourt Brace Jovanovich, Inc., 1982.
- Holdstein, Deborah. "Computerized Instruction in Writing at the Illinois Institute of Technology: Practice Editing and Motivation for the Engineering Student." Writing Lab Newsletter. Ed. Muriel Harris, 8, No. 7 (March 1984), pp. 6-8.
- Hunt, K. W. Grammatical Structures Written at Three Grade Levels: Research Report #3. Urbana, Illinois: NCTE, 1965.
- Kearsley, G., B. Hunter, and R. J. Seidel. "Two Decades of Computer-Based Instruction Projects: What Have We Learned?" I.H.E. Journal, 1983, pp. 90-94.
- Kierzek, John M., and Walker Gibson. A Handbook of Writing and Revision. New York: The Macmillan Co., 1965.
- Leiblum, M. "Structuring Computer-Assisted Learning in a University Environment." In AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning. New York: Kogan Page, London/Nichols Publishing Co., 1981, pp. 89-97.
- Levin, Robert, and Claire Doyle. "The Microcomputer in the Writing/Reading/Study Lab." I.H.E. Journal, Feb. 1983, pp. 77-100.
- Mellon, John. Transformational Sentence-Combining: A Method for Enhancing the Development of Syntactic Fluency in English: Research Report #10. Champaign, Illinois: NCTE, 1969.
- Mills, Helen. Connecting and Combining in Sentence and Paragraph Writing. Glenview, Illinois: Scott, Foresman, and Co., 1982.
- Ney, James W. "The Hazards of the Course: Sentence-Combining in Freshman English." The English Record, No. 27 (Summer/Autumn 1976), 70-77.
- "Response to Donald A. Daiker, Andrew Kerek, and Max Morenberg's 'Sentence-Combining and Syntactic Maturity in Freshman Composition.'" College Composition and Communication, 29 (Feb. 1978), 36-41.

- Dates, William. "An Evaluation of Computer-Aided Instruction for English Grammar Review." Studies in Language Learning, 3 (1981).
- O'Donnell, R. C., N. J. Griffin, and R. C. Norris. Syntax of Kindergarten and Elementary School Children: A Transformational Analysis: Research Report #8. Champaign, Illinois: NCTE, 1969.
- O'Hare, Frank. Sentence-Combining: Improving Student Writing Without Formal Grammar Instruction: Research Report #15. Urbana, Illinois: NCTE, 1976.
- Pask, G. "Conversational Techniques in Study and Practice of Education." British Journal of Educational Psychology, 46 (1976), 12-25.
- Potter, Robert R. "Sentence Structure and Prose Quality: An Exploratory Study." In Teaching of High School Composition. Ed. Gary Tate and Edward P. J. Corbett. New York: Oxford University Press, 1970, pp. 174-83.
- Rahmlow, H. F. "Opportunities and Pitfalls in Computer-Based Educational Networks." In AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning. New York: Kogan Page, London/Nichols Publishing Co., 1981, pp. 132-36.
- Rushby, N. J., B. B. James, and J. S. A. Anderson. "A Three-Dimensional View of Computer-Based Learning in Continental Europe." In AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning. New York: Kogan Page, London/Nichols Publishing Co., 1981, pp. 71-83.
- Schwartz, Helen J. "Monsters and Mentors: Computer Applications for Humanistic Education." College English, 44 (Feb. 1982), 141-52.
- Strong, William. Sentence-Combining: A Composing Book. New York: Random House, 1973.
- , Sentence-Combining and Paragraph Building. Teachers' ed. New York: Random House, 1981.
- Tate, Gary, and Edward P. J. Corbett, eds. The Writing Teacher's Sourcebook. New York: Oxford University Press, 1981.
- "That." American Heritage Dictionary. 1982 college ed.
- Troyka, Lynn Quitman, and Jerrold Nudelman. Steps in Composition. 3rd ed. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1982.
- Watkins, Floyd, William B. Dillingham, and Edwin T. Martin. Practical English Handbook. 4th ed. Boston: Houghton Mifflin Co., 1974.

- Watt, William W. A Short Guide to English Usage. New York: The World Publishing Co., 1967.
- Weaver, Richard M. "Some Rhetorical Aspects of Grammatical Categories." In Teaching High School Composition. Ed. Gary Tate and Edward P. J. Corbett. New York: Oxford University Press, 1970, pp. 165-73.
- "Which." American Heritage Dictionary. 1982 college ed.
- "Who." American Heritage Dictionary. 1982 college ed.
- Wresch, William. "Computers in the English Classroom." College English, 44 (Feb. 1982), 483-90.
- Zinn, Karl L. "An Overview of Computer-Aided Learning in the USA." In AETT Occasional Publication Number 5: Selected Readings in Computer-Based Learning. New York: Kogan Page, London/Nichols Publishing Co., 1981, pp. 44-54.

APPENDIX 5

APPENDIX A

TIMETABLE

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			
P R E - T E S T S						
XX						
				1	2	3
P R E - T E S T S						
4	5	6	7	8	9	10
N O T I F I C A T I O N A N D S C H E D U L I N G						
11	12	13	14	15	16	17
S P R I N G B R E A K						
18	19	20	21	22	23	24
C O M P U T E R G R O U P <small>MINI-COURSE</small>						
25	26	27	28	29	30	31
C O M P U T E R G R O U P <small>MINI-COURSE</small>						
XX						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
P O S T - P O S T T E S T S						

APPENDIX B

THE FOLLOWING PARAGRAPH IS CHOPPY. USING ONLY SUBORDINATE CLAUSES BEGINNING WITH WHO/WHOM, WHICH OR THAT, COMBINE AS MANY SENTENCES AS POSSIBLE. DO NOT CHANGE THE ORDER OF THE SENTENCES, AND DO NOT ALTER THE WORDING UNLESS ABSOLUTELY NECESSARY. YOU MAY DO YOUR EDITING ON THE PARAGRAPH ITSELF.

A. My brother got a Canon AE1 camera for his birthday. His birthday is on November 11. Ever since then, my family has been in hiding. Jimmy has developed aggressive tendencies. He can't control them at all. His camera seems to be everywhere. This is annoying. I can't even count the number of embarrassing pictures he has collected in his photo album. He caught my father on Christmas Eve. Dad was putting presents under the tree. He also has a picture of my sister. He caught her in the shower. One of these days, my mother is going to take the camera away from him and give him a baseball mitt.

B. My Aunt Rosemary grows "tuba plants" in her garden. Her garden is in the backyard. My family has always been very proud of her determination. Tuba plants need a special soil. Aunt Rosemary couldn't find it in the United States. However, her own garden soil contained the right minerals. This was amazing. Generally, tuba plants grow only in the jungles of Ethiopia. She received her first tuba plant from an Ethiopian missionary in May. The missionary was an old college friend. That afternoon, my aunt confided in her neighbor. She told her neighbor that someday she would be rich. Six years later, tuba plants were on grocery shelves everywhere.

C. Charles Bryant is a famous painter. This is not surprising. He visits small towns all over the United States. Mr. Bryant paints scenes. The scenes are familiar to all of us. Often a person will recognize a church or hillside. It might be right in his backyard. Mr. Bryant has the amazing ability to capture every minute detail. He once painted a man in a rocking chair. The man had a bee on his shoulder. Another portrait was of a farmer. He painted him with sweat on his brow. Someday, Charles Bryant will be as well-loved as Norman Rockwell; just wait and see!

HOW TO USE THE ZENITH COMPUTER (Combining (Who, Which, & That Clauses))

BEFORE TOUCHING THE COMPUTER!!

Remember

Press this for normal capitalization.

Be sure this is level with the other keys so the SHIFT key will work.

The computer will tell you to press this each time you give an answer.

The computer will tell you to press this each time you change screens.

Your Answers

This will erase your answers backwards, letter by letter.

These move the cursor in the indicated direction without erasing the rest of your answer.

This allows you to insert letters without typing over the rest of your answer.

This allows you to erase letters.

Caution

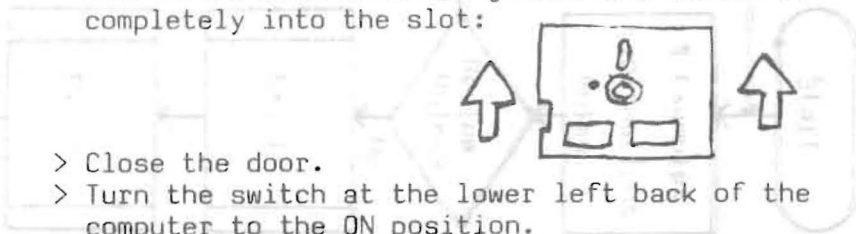
Touch the keys or SPACE BAR unless the program specifically tells you to. You might move too fast.

Have fun!

(IF YOU HAVE ANY PROBLEMS, CALL A WRITING LAB TUTOR)

How To Turn On The Computer

- > The printer to the left of the computer must be on for the program to run. Be sure there is paper in it and that the SELECT button on the front is depressed. Flip the switch on the left side to the ON position; the computer will automatically print your scores for each exercise now.
- > Open the left slot on the front of the computer.
- > Remove the disk from its jacket and insert it completely into the slot:

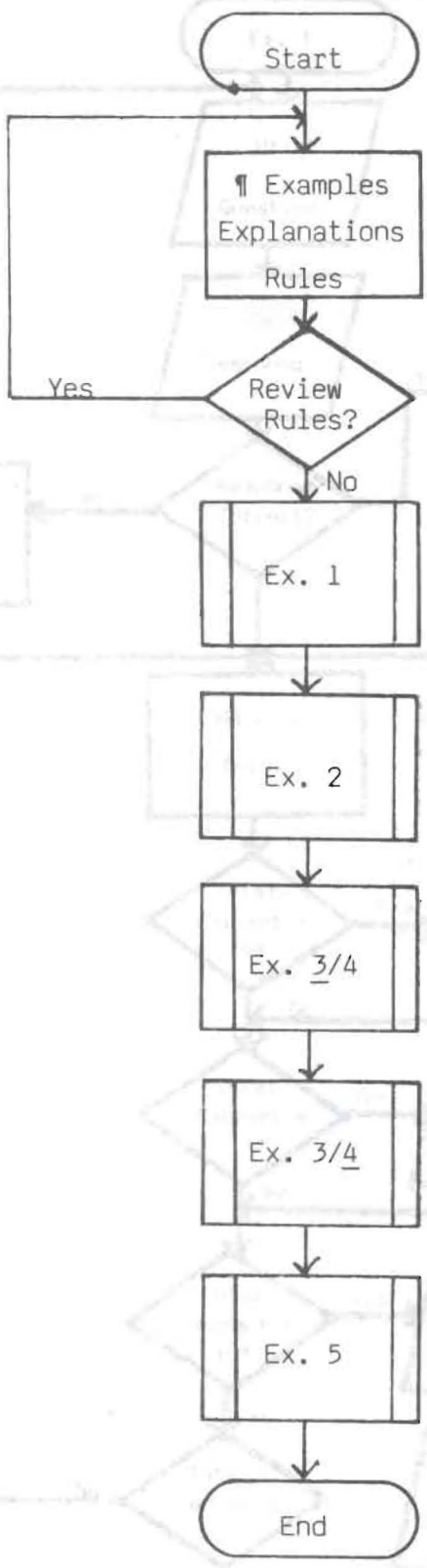


- > Close the door.
- > Turn the switch at the lower left back of the computer to the ON position.
- > Turn the knob on the right front of the screen to the ON position.
- > When the screen says, "Enter new date," press RETURN.
- > When the screen says, "Enter new time," press RETURN.
- > When the screen says, "A:" type ZBASIC and press RETURN.
- > When the screen says, "OK," type LOAD"EX1. (notice the period) and press RETURN.
- > When the screen says, "OK" for the second time, press the F2 key to start the program.
- > To enter the program at another exercise, type EX2., EX345., or EX6. in place of EX1.

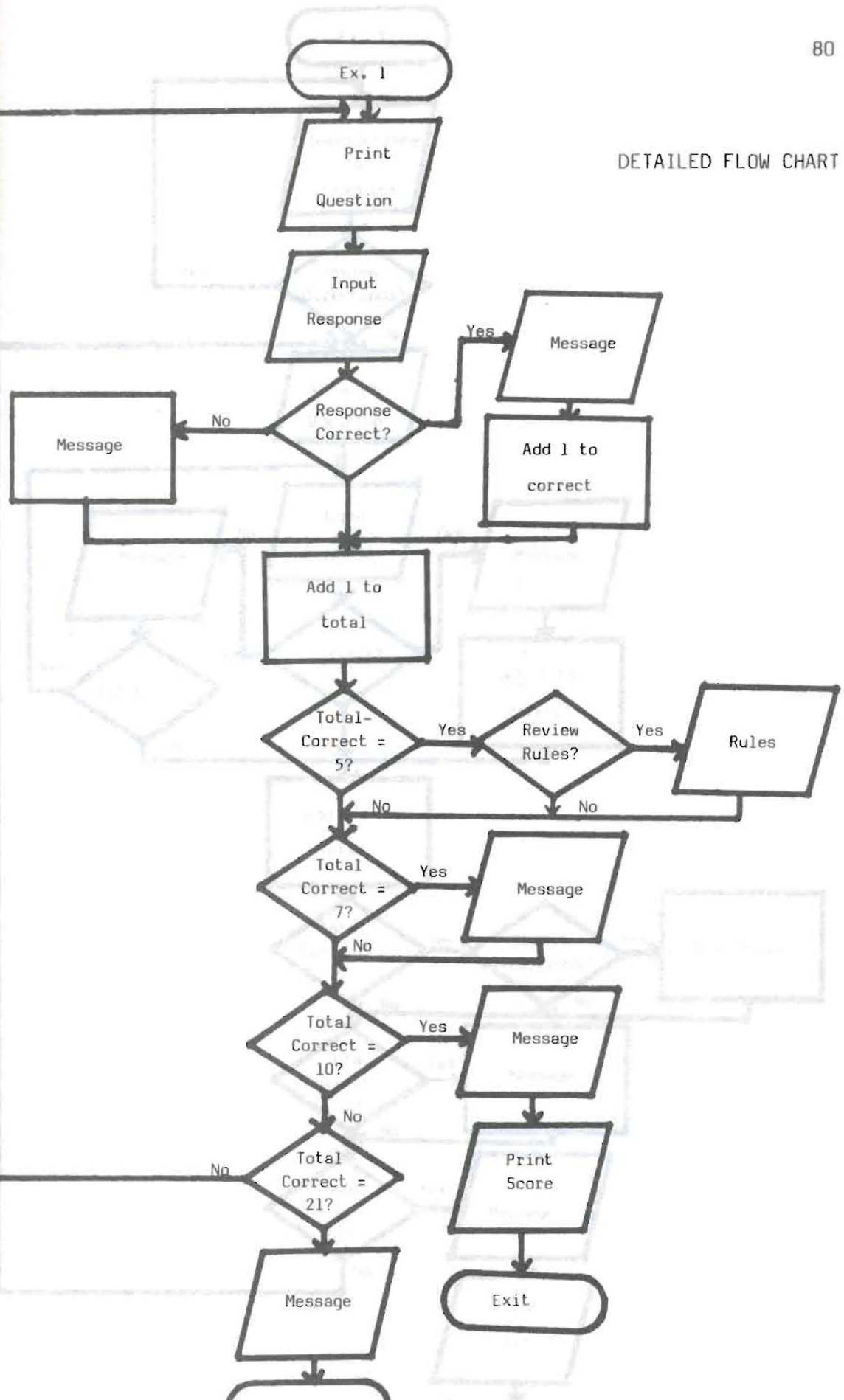
How to Turn The Computer Off

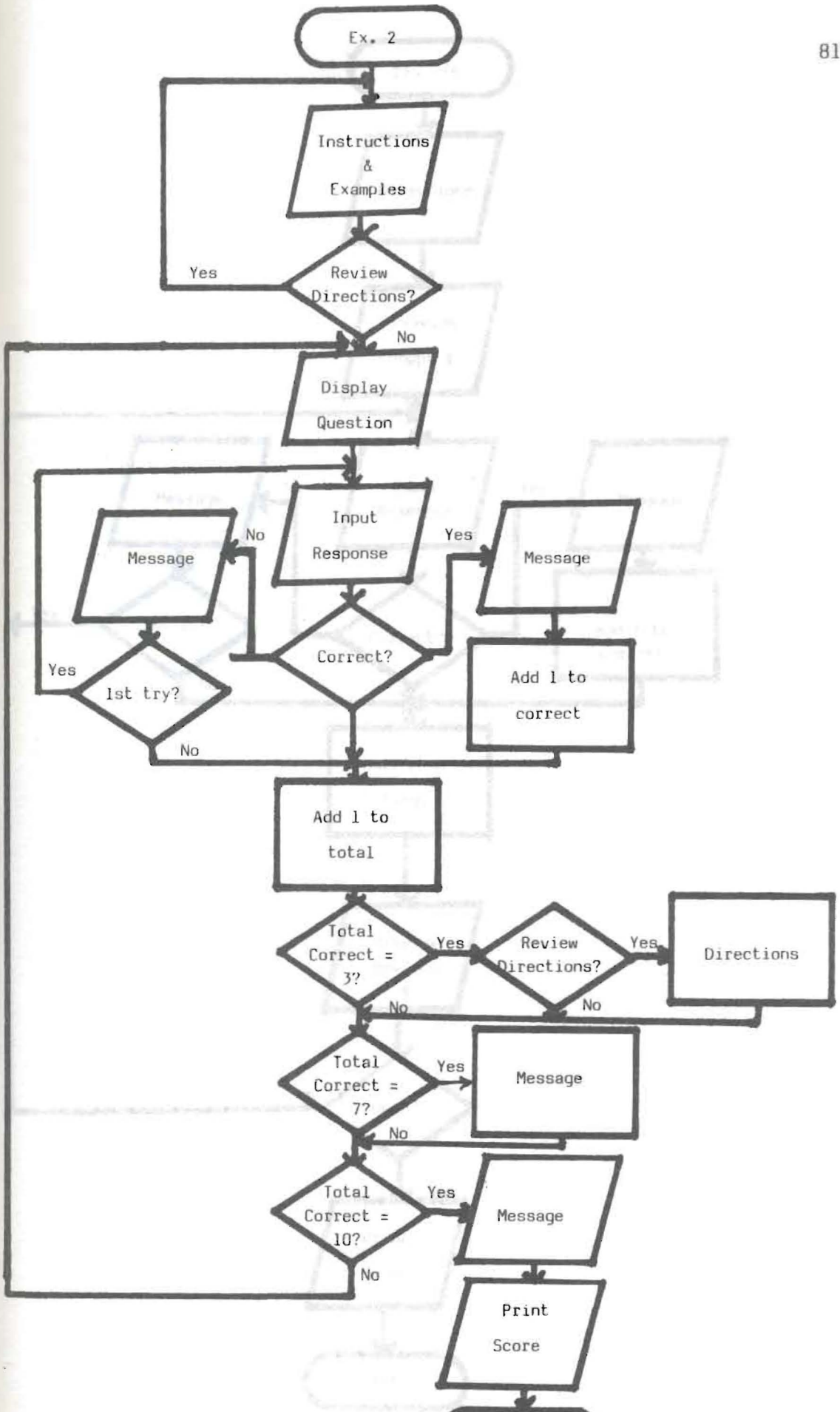
- > Open the door of the left slot.
- > Remove the disk and put it back in its jacket.
- > Turn the front and back knobs to the OFF position.

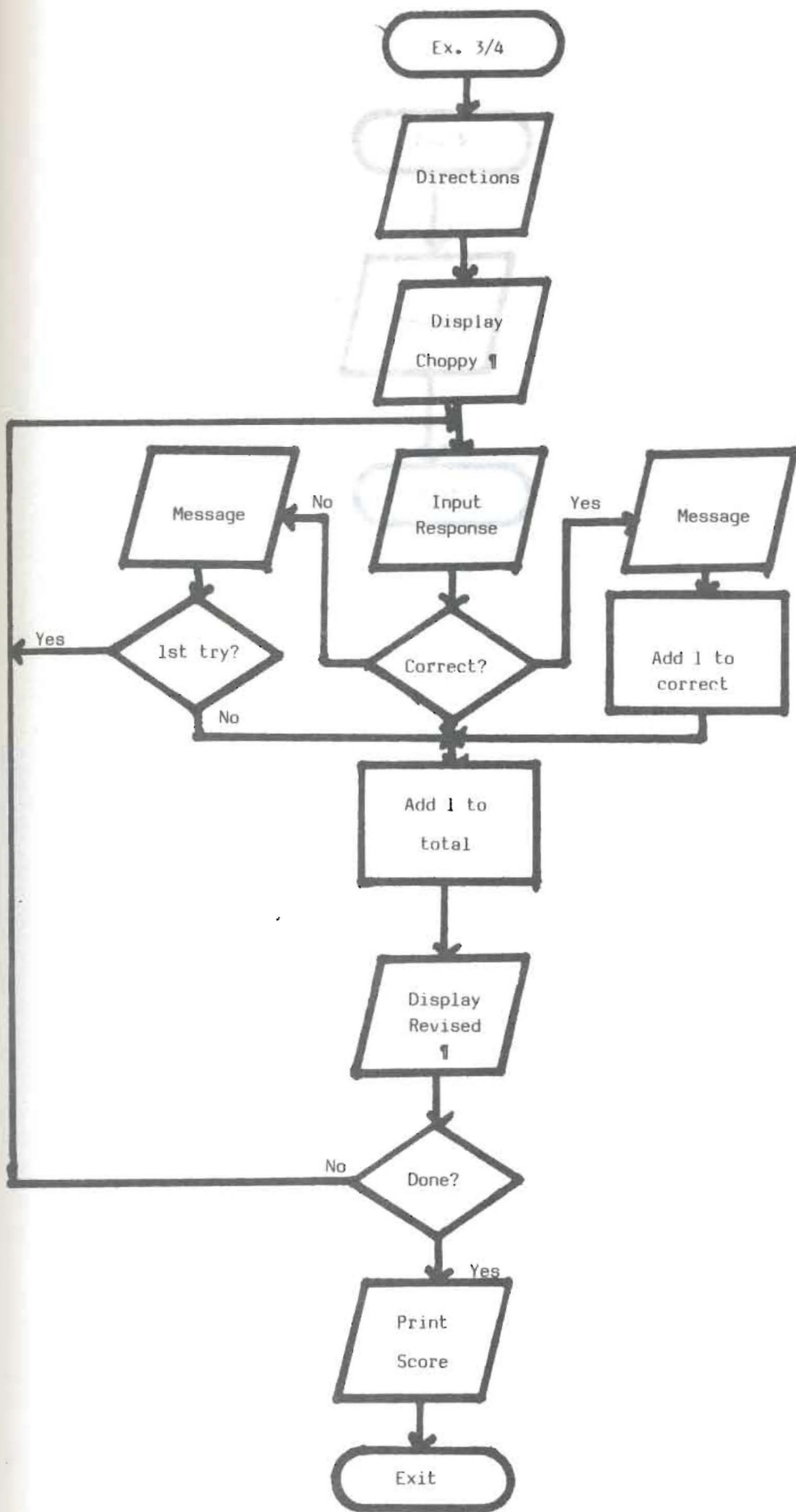
SIMPLIFIED FLOW CHART

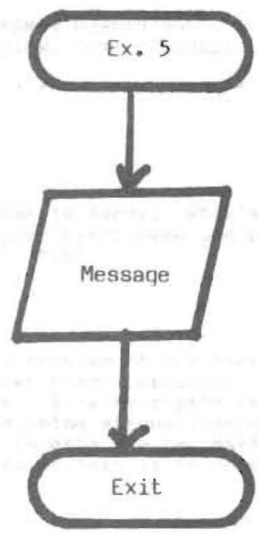


DETAILED FLOW CHART









Exercise 1

```

10 '*****COPYRIGHT 1984 BY SANDY SMITH (EMPORIA STATE UNIVERSITY)*****
20 '*****SCREEN 1*****
30 CLS:FOR X = 1 TO 8:PRINT:NEXT X
40 PRINT TAB(25) "*****"
50 PRINT TAB(25) "*****"
60 PRINT TAB(25) "      SENTENCE COMBINING      "
70 PRINT TAB(25) "** (WHO, WHICH, THAT CLAUSES) **"
80 PRINT TAB(25) "**"
90 PRINT TAB(25) "*****"
100 FOR X = 1 TO 1500:NEXT X
110 CLS
120 '*****SCREEN 2*****
130 FOR X = 1 TO 9
140 PRINT:NEXT X
150 PRINT TAB(20) "Hi, my name is Sandy. What's yours?":PRINT
160 PRINT TAB(20) "Type in your first name and press the RETURN key.":PRINT:PRINT
170 INPUT "      ";N$
180 CLS
190 '*****SCREEN 3*****
200 FOR X = 1 TO 6
210 PRINT:NEXT X
220 PRINT TAB(16) N$;" , this program of six exercises deals with one":PRINT
230 PRINT TAB(16) "of the most common problems in student writing: choppy":PRINT
240 PRINT TAB(16) "sentences. A jerky rhythm results from too many short":PRINT
250 PRINT TAB(16) "sentences being strung together, but if a writer varies his":PRINT
260 PRINT TAB(16) "sentence lengths, he can make a much smoother paper.":PRINT
270 PRINT TAB(16) "One way to do this is to combine related sentences."
280 PRINT:PRINT:PRINT
290 GOSUB 15430
300 '*****SCREEN 4*****
310 PRINT:PRINT:PRINT
320 PRINT TAB(16) "LOOK AT THE FOLLOWING CHOPPY PARAGRAPH":PRINT
330 PRINT TAB(19) "My boyfriend, Mark, works for Southwestern Bell":PRINT
340 PRINT TAB(16) "Corporation. It is a good company. Mark has worked":PRINT
350 PRINT TAB(16) "there for almost four years. He is an excellent":PRINT
360 PRINT TAB(16) "lineman. He thoroughly enjoys it, too. He finds it":PRINT
370 PRINT TAB(16) "challenging to handle a big truck and replace damaged":PRINT
380 PRINT TAB(16) "cable in the middle of winter. His truck takes special":PRINT
390 PRINT TAB(16) "training to operate. He will probably make Bell a":PRINT
400 PRINT TAB(16) "lifetime career.":PRINT
410 GOSUB 15430
420 '*****SCREEN 5*****
430 PRINT:PRINT:PRINT
440 PRINT TAB(16) "NOW LOOK AT THE REVISED VERSION":PRINT
450 PRINT TAB(19) "My boyfriend, Mark, works for Southwestern Bell":PRINT
460 PRINT TAB(16) "Corporation, which is a good company. Mark, who is"
470 PRINT TAB(16) "-----"
480 PRINT TAB(16) "an excellent lineman, has worked there for almost"
490 PRINT TAB(16) "-----"
500 PRINT TAB(16) "four years. He thoroughly enjoys it, too. He finds":PRINT

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510 PRINT TAB(16) "it challenging to handle a big truck that takes special"
520 PRINT TAB(16) "-----"
530 PRINT TAB(16) "training to operate and replace damaged cable in the"
540 PRINT TAB(16) "-----"
550 PRINT TAB(16) "middle of winter. He will probably make Bell a":PRINT
560 PRINT TAB(16) "lifetime career.":PRINT
570 GOSUB 15430
580 *****SCREEN 6*****
590 FOR X = 1 TO 6
600 PRINT:NEXT X
610 PRINT TAB(16) "The second paragraph is much better because some":PRINT
620 PRINT TAB(16) "of the sentences have been turned into 'subordinate":PRINT
630 PRINT TAB(16) "clauses' and then attached to the remaining ones.":PRINT
640 PRINT TAB(16) "Before we continue, ";N$;" do you remember the":PRINT
650 PRINT TAB(16) "difference between a subordinate clause and a":PRINT
660 PRINT TAB(16) "complete sentence?"
670 PRINT:PRINT:PRINT:PRINT
680 GOSUB 15490
690 *****SCREENS 7 & 8*****
700 FOR X = 1 TO 10:PRINT:NEXT X
710 IF R$ = "y" OR R$ = "Y" GOTO 730
720 IF R$ = "n" OR R$ = "N" GOTO 750
730 PRINT TAB(20) "Good! But why don't we review it anyway?"
740 PRINT :PRINT TAB(20) "(Don't hit the SPACE BAR yet)":GOTO 770
750 PRINT TAB(22) "All right, then let's begin with that."
760 PRINT :PRINT TAB(22) "(Don't hit the SPACE BAR yet)":GOTO 770
770 FOR X = 1 TO 2000 :NEXT X
780 CLS
790 *****SCREEN 9*****
800 FOR X = 1 TO 7
810 PRINT:NEXT X
820 PRINT TAB(16) "A subordinate clause is a group of words which has":PRINT
830 PRINT TAB(16) "a subject and a verb, just like a complete sentence,":PRINT
840 PRINT TAB(16) "but it cannot stand alone because of the 'danger word'":PRINT
850 PRINT TAB(16) "at the beginning.":PRINT
860 PRINT TAB(20) "S" TAB(26) "V" TAB(40) "S" TAB(45) "V"
870 PRINT TAB(16) "'Cindy bought a car (which gets 45 miles per gallon).'"
880 PRINT TAB(39) "~"
890 PRINT TAB(33) "danger word"
900 FOR X = 1 TO 3
910 PRINT:NEXT X
920 GOSUB 15430
930 *****SCREEN 10*****
940 PRINT:PRINT:PRINT
950 PRINT TAB(16) "LOOK AT THIS SENTENCE":PRINT
960 FOR X = 1 TO 1000:NEXT X
970 PRINT TAB(16) "'John wrote a long letter (that I couldn't read).'"
980 PRINT TAB(16) "-----":PRINT
990 FOR X = 1 TO 2500:NEXT X
1000 PRINT TAB(16) "'John wrote a long letter' is a complete sentence":PRINT

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1010 PRINT TAB(16) "because it has a subject (John) and a verb (wrote).":PRINT:PRINT
1020 FOR X = 1 TO 5000:NEXT X
1030 PRINT TAB(16) "(That I couldn't read)'' is a subordinate clause":PRINT
1040 PRINT TAB(16) "describing the letter. Even though it has a subject":PRINT
1050 PRINT TAB(16) "(I) and a verb (couldn't read), THAT is a danger word,":PRINT
1060 PRINT TAB(16) "so it cannot stand alone. It simply adds information."
1070 PRINT
1080 GOSUB 15430
1090 *****SCREEN 11*****
1100 FOR X = 1 TO 7
1110 PRINT:NEXT X
1120 PRINT TAB(16) "There are several danger words which signal ":PRINT
1130 PRINT TAB(16) "incomplete sentences: although, since, because,":PRINT
1140 PRINT TAB(16) "if, before, after, where, when, while, who, which,":PRINT
1150 PRINT TAB(16) "and that, to name a few. In this program we will":PRINT
1160 PRINT TAB(16) "only use the last three: WHO, WHICH, and THAT."
1170 PRINT:PRINT:PRINT
1180 GOSUB 15430
1190 GOSUB 14360
1200 *****SCREEN 12*****
1210 FOR X = 1 TO 10
1220 PRINT:NEXT X
1230 PRINT TAB(16) NS; ", I know this is a lot of information to remember. Do you":PRINT
1240 PRINT TAB(16) "want to go over the explanation of WHO, WHICH, and THAT again?":PRINT
1250 FOR X = 1 TO 8
1260 PRINT:NEXT X
1270 GOSUB 15490
1280 IF R$ = "N" OR R$ = "n" THEN 1300
1290 GOSUB 14360
1300 *****SCREEN 13*****
1310 PRINT:PRINT :PRINT :PRINT
1320 PRINT TAB(16) "OK, let's try an exercise. In the following set":PRINT
1330 PRINT TAB(16) "of sentences, select the danger word (WHO/WHOM,":PRINT
1340 PRINT TAB(16) "WHICH, or THAT) which best fits the clause.":PRINT
1350 PRINT TAB(16) "Don't forget that the presence or absence of":PRINT
1360 PRINT TAB(16) "commas is important and that sometimes more than":PRINT
1370 PRINT TAB(16) "one answer might work. Type in the letter of your":PRINT
1380 PRINT TAB(16) "choice, and when you get 10 correct, we'll move":PRINT
1390 PRINT TAB(16) "on to the next section. Ready?":PRINT:PRINT
1400 GOSUB 15430
1410 *****EXERCISE 1*****
1420 *****EX. 1 QUESTION 1*****
1430 SWITCH = 0
1440 SWITCH2 = 0
1450 FOR X = 1 TO 7:PRINT:NEXT X
1460 PRINT TAB(12) "1. My mother, _____ lives alone, still manages to stay active.":PRI
1470 GOSUB 15550
1480 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 1520
1490 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 1570
1500 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 1630
```



```
1510 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 1690
1520 FOR X = 1 TO 8:PRINT:NEXT X
1530 GOSUB 15690
1540 PRINT:GOSUB 15750
1550 GOSUB 1750
1560 GOTO 1780
1570 FOR X = 1 TO 7:PRINT:NEXT X
1580 GOSUB 15720
1590 PRINT:GOSUB 15770
1600 GOSUB 1750
1610 PRINT:GOSUB 15750
1620 GOTO 1780
1630 FOR X = 1 TO 7:PRINT:NEXT X
1640 GOSUB 15720
1650 PRINT:GOSUB 15790
1660 GOSUB 1750
1670 PRINT:GOSUB 15750
1680 GOTO 1780
1690 FOR X = 1 TO 7:PRINT:NEXT X
1700 GOSUB 15720
1710 PRINT:GOSUB 15810
1720 GOSUB 1750
1730 PRINT:GOSUB 15750
1740 GOTO 1780
1750 PRINT:PRINT TAB(4) "THE CORRECT ANSWER IS"
1760 PRINT TAB(4) "My mother, who lives alone, still manages to stay active.":PRINT
1770 RETURN
1780 PRINT:GOSUB 15430
1790 '*****EX. 1 QUESTION 2*****
1800 FOR X = 1 TO 6:PRINT:NEXT X
1810 PRINT TAB(12) "2. The school board voted to give Mr. Kelly, _____ the other "
1820 PRINT TAB(12) "teachers respect a great deal, a raise."
1830 GOSUB 15550
1840 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 1880
1850 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 1940
1860 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 1990
1870 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 2050
1880 FOR X = 1 TO 7:PRINT:NEXT X
1890 GOSUB 15720
1900 PRINT:GOSUB 15750
1910 GOSUB 2110
1920 PRINT:GOSUB 15770
1930 GOTO 2150
1940 FOR X = 1 TO 8:PRINT :NEXT X
1950 GOSUB 15690
1960 PRINT :GOSUB 15770
1970 GOSUB 2110
1980 GOTO 2150
1990 FOR X = 1 TO 7:PRINT :NEXT X
2000 GOSUB 15720
```

```
2010 PRINT :GOSUB 15790
2020 GOSUB 2110
2030 PRINT :GOSUB 15770
2040 GOTO 2150
2050 FOR X = 1 TO 7:PRINT :NEXT X
2060 GOSUB 15720
2070 PRINT :GOSUB 15810
2080 GOSUB 2110
2090 PRINT:GOSUB 15770
2100 GOTO 2150
2110 PRINT:PRINT TAB(4) "THE CORRECT ANSWER IS"
2120 PRINT TAB(4) "The school board voted to give Mr. Kelly, whom the other teachers respect
2130 PRINT TAB(4) "great deal, a raise.":PRINT
2140 RETURN
2150 PRINT:GOSUB 15430
2160 '*****EX. 1 QUESTION 3*****
2170 FOR X = 1 TO 7:PRINT:NEXT X
2180 PRINT TAB(12) "3. Robie prefers computers _____ use a certain language."
2190 GOSUB 15550
2200 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 2240
2210 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 2320
2220 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 2400
2230 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 2470
2240 FOR X = 1 TO 4:PRINT:NEXT X
2250 GOSUB 15720
2260 PRINT:GOSUB 15750
2270 GOSUB 2540
2280 PRINT:GOSUB 15810
2290 PRINT:GOSUB 15840
2300 PRINT:GOSUB 15790
2310 GOTO 2570
2320 FOR X = 1 TO 4:PRINT:NEXT X
2330 GOSUB 15720
2340 PRINT:GOSUB 15770
2350 GOSUB 2540
2360 PRINT :GOSUB 15810
2370 PRINT:GOSUB 15840
2380 PRINT :GOSUB 15790
2390 GOTO 2570
2400 FOR X = 1 TO 5:PRINT:NEXT X
2410 GOSUB 15690
2420 PRINT:GOSUB 15790
2430 GOSUB 2540
2440 PRINT :GOSUB 15840
2450 PRINT :GOSUB 15810
2460 GOTO 2570
2470 FOR X = 1 TO 5:PRINT :NEXT X
2480 GOSUB 15690
2490 PRINT :GOSUB 15810
2500 GOSUB 2540
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2510 PRINT :GOSUB 15840
2520 PRINT :GOSUB 15790
2530 GOTO 2570
2540 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
2550 PRINT TAB(4) "Robie prefers computers which/that use a certain language.":PRINT
2560 RETURN
2570 PRINT :GOSUB 15430
2580 '*****EX. 1 QUESTION 4*****
2590 FOR X = 1 TO 7:PRINT:NEXT X
2600 PRINT TAB(12) "4. The boy _____ sits at the end of the table is a troublemaker."
2610 GOSUB 15550
2620 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 2660
2630 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 2730
2640 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 2810
2650 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 2890
2660 FOR X = 1 TO 5:PRINT:NEXT X
2670 GOSUB 15690
2680 PRINT :GOSUB 15750
2690 GOSUB 2960
2700 PRINT :GOSUB 15840
2710 PRINT :GOSUB 15810
2720 GOTO 2990
2730 FOR X = 1 TO 4:PRINT:NEXT X
2740 GOSUB 15720
2750 PRINT :GOSUB 15770
2760 GOSUB 2960
2770 PRINT :GOSUB 15750
2780 PRINT :GOSUB 15840
2790 PRINT :GOSUB 15810
2800 GOTO 2990
2810 FOR X = 1 TO 4:PRINT :NEXT X
2820 GOSUB 15720
2830 PRINT :GOSUB 15790
2840 GOSUB 2960
2850 PRINT :GOSUB 15750
2860 PRINT :GOSUB 15840
2870 PRINT :GOSUB 15810
2880 GOTO 2990
2890 FOR X = 1 TO 5:PRINT :NEXT X
2900 GOSUB 15690
2910 PRINT :GOSUB 15810
2920 GOSUB 2960
2930 PRINT :GOSUB 15840
2940 PRINT :GOSUB 15750
2950 GOTO 2990
2960 PRINT:PRINT TAB(4) "THE CORRECT ANSWER IS"
2970 PRINT TAB(4) "The boy who/that sits at the end of the table is a troublemaker.":PRINT
2980 RETURN
2990 PRINT :GOSUB 15430
3000 '*****EX. 1 QUESTION 5*****
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3010 FOR X = 1 TO 6:PRINT:NEXT X
3020 PRINT TAB(12) "5. The hobo wrote a song called 'The Amtrak Blues,' _____ made"
3030 PRINT TAB(12) "him famous."
3040 GOSUB 15550
3050 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 3090
3060 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 3150
3070 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 3210
3080 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 3260
3090 FOR X = 1 TO 7:PRINT:NEXT X
3100 GOSUB 15720
3110 PRINT :GOSUB 15750
3120 GOSUB 3320
3130 PRINT :GOSUB 15790
3140 GOTO 3360
3150 FOR X = 1 TO 7:PRINT :NEXT X
3160 GOSUB 15720
3170 PRINT :GOSUB 15770
3180 GOSUB 3320
3190 PRINT :GOSUB 15790
3200 GOTO 3360
3210 FOR X = 1 TO 8:PRINT :NEXT X
3220 GOSUB 15690
3230 PRINT :GOSUB 15790
3240 GOSUB 3320
3250 GOTO 3360
3260 FOR X = 1 TO 6:PRINT :NEXT X
3270 GOSUB 15720
3280 PRINT :GOSUB 15810
3290 GOSUB 3320
3300 PRINT :GOSUB 15790
3310 GOTO 3360
3320 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
3330 PRINT TAB(4) "The hobo wrote a song called 'The Amtrak Blues,' which made"
3340 PRINT TAB(4) "him famous.":PRINT
3350 RETURN
3360 PRINT :GOSUB 15430
3370 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
3380 '*****EX. 1 QUESTION 6*****
3390 FOR X = 1 TO 7:PRINT :NEXT X
3400 PRINT TAB(12) "6. Marilyn mends clothes free for clients _____ she knows well.":PRIT
3410 GOSUB 15550
3420 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 3460
3430 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 3550
3440 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 3630
3450 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 3720
3460 FOR X = 1 TO 3:PRINT :NEXT X
3470 GOSUB 15720
3480 PRINT :GOSUB 15750
3490 GOSUB 3800
3500 PRINT :GOSUB 15770

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3510 PRINT :GOSUB 15840
3520 PRINT :GOSUB 15810
3530 PRINT :GOSUB 15860
3540 GOTO 3830
3550 FOR X = 1 TO 4:PRINT :NEXT X
3560 GOSUB 15690
3570 PRINT :GOSUB 15770
3580 GOSUB 3800
3590 PRINT :GOSUB 15840
3600 PRINT :GOSUB 15810
3610 PRINT :GOSUB 15860
3620 GOTO 3830
3630 FOR X = 1 TO 3:PRINT :NEXT X
3640 GOSUB 15720
3650 PRINT :GOSUB 15790
3660 GOSUB 3800
3670 PRINT :GOSUB 15770
3680 PRINT :GOSUB 15840
3690 PRINT :GOSUB 15810
3700 PRINT :GOSUB 15860
3710 GOTO 3830
3720 FOR X = 1 TO 4:PRINT :NEXT X
3730 GOSUB 15690
3740 PRINT :GOSUB 15810
3750 GOSUB 3800
3760 PRINT :GOSUB 15840
3770 PRINT :GOSUB 15770
3780 PRINT :GOSUB 15860
3790 GOTO 3830
3800 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
3810 PRINT TAB(4) "Marilyn mends clothes free for clients whom/that she knows well.":PRINT
3820 RETURN
3830 PRINT :GOSUB 15430
3840 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
3850 '*****EX. 1 QUESTION 7*****
3860 FOR X = 1 TO 7:PRINT :NEXT X
3870 PRINT TAB(12) "7. Farmer Tucker prefers to raise animals _____ he can sell."
3880 GOSUB 15550
3890 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 3930
3900 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 4010
3910 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 4090
3920 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 4160
3930 FOR X = 1 TO 3:PRINT :NEXT X
3940 GOSUB 15720
3950 PRINT :GOSUB 15750
3960 GOSUB 4230
3970 PRINT :GOSUB 15790
3980 PRINT :GOSUB 15840
3990 PRINT :GOSUB 15810
3995 PRINT :GOSUB 15860
4000 GOTO 4260
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4010 FOR X = 1 TO 3:PRINT :NEXT X
4020 GOSUB 15720
4030 PRINT :GOSUB 15770
4040 GOSUB 4230
4050 PRINT :GOSUB 15790
4060 PRINT :GOSUB 15840
4070 PRINT :GOSUB 15810
4075 PRINT :GOSUB 15860
4080 GOTO 4260
4090 FOR X = 1 TO 4:PRINT :NEXT X
4100 GOSUB 15690
4110 PRINT :GOSUB 15790
4120 GOSUB 4230
4130 PRINT :GOSUB 15840
4140 PRINT :GOSUB 15810
4145 PRINT :GOSUB 15860
4150 GOTO 4260
4160 FOR X = 1 TO 4:PRINT :NEXT X
4170 GOSUB 15690
4180 PRINT :GOSUB 15810
4190 GOSUB 4230
4200 PRINT :GOSUB 15840
4210 PRINT :GOSUB 15790
4215 PRINT :GOSUB 15860
4220 GOTO 4260
4230 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
4240 PRINT TAB(4) "Farmer Tucker prefers to raise animals which/that he can sell.":PRINT
4250 RETURN
4260 PRINT :GOSUB 15430
4270 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
4280 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
4290 '*****EX. 1 QUESTION 8*****
4300 FOR X = 1 TO 6:PRINT :NEXT X
4310 PRINT TAB(12) "8. Larry bought a new set of tires, _____ his wife thought were"
4320 PRINT TAB(12) "too expensive anyway, and put them on the truck himself.":PRINT
4330 GOSUB 15550
4340 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 4380
4350 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 4440
4360 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 4500
4370 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 4550
4380 FOR X = 1 TO 7:PRINT :NEXT X
4390 GOSUB 15720
4400 PRINT :GOSUB 15750
4410 GOSUB 4610
4420 PRINT :GOSUB 15790
4430 GOTO 4650
4440 FOR X = 1 TO 7:PRINT :NEXT X
4450 GOSUB 15720
4460 PRINT :GOSUB 15770
4470 GOSUB 4610
4480 PRINT :GOSUB 15790
4490 GOTO 4650
4500 FOR X = 1 TO 8:PRINT :NEXT X
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4510 GOSUB 15690
4520 PRINT :GOSUB 15790
4530 GOSUB 4610
4540 GOTO 4650
4550 FOR X = 1 TO 6:PRINT :NEXT X
4560 GOSUB 15720
4570 PRINT :GOSUB 15810
4580 GOSUB 4610
4590 PRINT :GOSUB 15790
4600 GOTO 4650
4610 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
4620 PRINT TAB(4) "Larry bought a new set of tires, which his wife thought were"
4630 PRINT TAB(4) "too expensive anyway, and put them on the truck himself.":PRINT
4640 RETURN
4650 PRINT :GOSUB 15430
4660 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
4670 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
4680 '*****EX. 1 QUESTION 9*****
4690 FOR X = 1 TO 7:PRINT :NEXT X
4700 PRINT TAB(12) "9. The telephone number is one _____ I can easily remember.":PRINT
4710 GOSUB 15550
4720 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 4760
4730 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 4850
4740 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 4940
4750 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 5020
4760 FOR X = 1 TO 3:PRINT :NEXT X
4770 GOSUB 15720
4780 PRINT :GOSUB 15750
4790 GOSUB 5100
4800 PRINT :GOSUB 15790
4810 PRINT :GOSUB 15840
4820 PRINT :GOSUB 15810
4830 PRINT :GOSUB 15860
4840 GOTO 5130
4850 FOR X = 1 TO 3:PRINT :NEXT X
4860 GOSUB 15720
4870 PRINT :GOSUB 15770
4880 GOSUB 5100
4890 PRINT :GOSUB 15790
4900 PRINT :GOSUB 15840
4910 PRINT :GOSUB 15810
4920 PRINT :GOSUB 15860
4930 GOTO 5130
4940 FOR X = 1 TO 4:PRINT :NEXT X
4950 GOSUB 15690
4960 PRINT :GOSUB 15790
4970 GOSUB 5100
4980 PRINT :GOSUB 15840
4990 PRINT :GOSUB 15810
5000 PRINT :GOSUB 15860
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5010 GOTO 5130
5020 FOR X = 1 TO 4:PRINT :NEXT X
5030 GOSUB 15690
5040 PRINT :GOSUB 15810
5050 GOSUB 5100
5060 PRINT :GOSUB 15840
5070 PRINT :GOSUB 15790
5080 PRINT :GOSUB 15860
5090 GOTO 5130
5100 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
5110 PRINT TAB(4) "The telephone number is one which/that I can easily remember.":PRINT
5120 RETURN
5130 PRINT :GOSUB 15430
5140 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
5150 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
5160 '*****EX. 1 QUESTION 10*****
5170 FOR X = 1 TO 6:PRINT :NEXT X
5180 PRINT TAB(12) "10. The ranch hand managed to rope the horse, _____ he eventually"
5190 PRINT TAB(12) "released.":PRINT
5200 GOSUB 15550
5210 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 5250
5220 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 5310
5230 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 5370
5240 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 5420
5250 FOR X = 1 TO 7:PRINT :NEXT X
5260 GOSUB 15720
5270 PRINT :GOSUB 15750
5280 GOSUB 5480
5290 PRINT :GOSUB 15790
5300 GOTO 5520
5310 FOR X = 1 TO 7:PRINT :NEXT X
5320 GOSUB 15720
5330 PRINT :GOSUB 15770
5340 GOSUB 5480
5350 PRINT :GOSUB 15790
5360 GOTO 5520
5370 FOR X = 1 TO 8:PRINT :NEXT X
5380 GOSUB 15690
5390 PRINT :GOSUB 15790
5400 GOSUB 5480
5410 GOTO 5520
5420 FOR X = 1 TO 6:PRINT :NEXT X
5430 GOSUB 15720
5440 PRINT :GOSUB 15810
5450 GOSUB 5480
5460 PRINT :GOSUB 15790
5470 GOTO 5520
5480 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
5490 PRINT TAB(4) "The ranch hand managed to rope the horse, which he eventually"
5500 PRINT TAB(4) "released.":PRINT
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5510 RETURN
5520 PRINT :GOSUB 15430
5530 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
5540 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
5550 IF C1 = 10 THEN GOTO 14190
5560 '*****EX. 1 QUESTION 11*****
5570 FOR X = 1 TO 6:PRINT :NEXT X
5580 PRINT TAB(12) "11. My roommate, _____ is known for drinking too much beer,"
5590 PRINT TAB(12) "wrecked his car last night."
5600 GOSUB 15550
5610 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 5650
5620 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 5700
5630 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 5760
5640 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 5820
5650 FOR X = 1 TO 8:PRINT :NEXT X
5660 GOSUB 15690
5670 PRINT :GOSUB 15750
5680 GOSUB 5880
5690 GOTO 5920
5700 FOR X = 1 TO 7:PRINT :NEXT X
5710 GOSUB 15720
5720 PRINT :GOSUB 15770
5730 GOSUB 5880
5740 PRINT :GOSUB 15750
5750 GOTO 5920
5760 FOR X = 1 TO 7:PRINT :NEXT X
5770 GOSUB 15720
5780 PRINT :GOSUB 15790
5790 GOSUB 5880
5800 PRINT :GOSUB 15750
5810 GOTO 5920
5820 FOR X = 1 TO 6:PRINT :NEXT X
5830 GOSUB 15720
5840 PRINT :GOSUB 15810
5850 GOSUB 5880
5860 PRINT :GOSUB 15750
5870 GOTO 5920
5880 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
5890 PRINT TAB(4) "My roommate, who is known for drinking too much beer,"
5900 PRINT TAB(4) "wrecked his car last night.":PRINT
5910 RETURN
5920 PRINT :GOSUB 15430
5930 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
5940 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
5950 IF C1 = 10 THEN GOTO 14190
5960 '*****EX. 1 QUESTION 12*****
5970 FOR X = 1 TO 6:PRINT :NEXT X
5980 PRINT TAB(12) "12. Bill, _____ I met on the subway, asked me out finally."
5990 GOSUB 15550
6000 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 6040
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6010 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 6100
6020 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 6150
6030 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 6210
6040 FOR X = 1 TO 7:PRINT :NEXT X
6050 GOSUB 15720
6060 PRINT :GOSUB 15750
6070 GOSUB 6270
6080 PRINT :GOSUB 15770
6090 GOTO 6300
6100 FOR X = 1 TO 8:PRINT :NEXT X
6110 GOSUB 15690
6120 PRINT :GOSUB 15770
6130 GOSUB 6270
6140 GOTO 6300
6150 FOR X = 1 TO 7:PRINT :NEXT X
6160 GOSUB 15720
6170 PRINT :GOSUB 15790
6180 GOSUB 6270
6190 PRINT :GOSUB 15770
6200 GOTO 6300
6210 FOR X = 1 TO 6:PRINT :NEXT X
6220 GOSUB 15720
6230 PRINT :GOSUB 15810
6240 GOSUB 6270
6250 PRINT :GOSUB 15770
6260 GOTO 6300
6270 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
6280 PRINT TAB(4) "Bill, whom I met on the subway, asked me out finally.":PRINT
6290 RETURN
6300 PRINT :GOSUB 15430
6310 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
6320 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
6330 IF C1 = 10 THEN GOTO 14190
6340 '*****EX. 1 QUESTION 13*****
6350 FOR X = 1 TO 6:PRINT :NEXT X
6360 PRINT TAB(12) "13. Buyers prefer cars _____ get good gas mileage, so they always"
6370 PRINT TAB(12) "check the sticker."
6380 GOSUB 15550
6390 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 6430
6400 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 6510
6410 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 6590
6420 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 6660
6430 FOR X = 1 TO 4:PRINT :NEXT X
6440 GOSUB 15720
6450 PRINT :GOSUB 15750
6460 GOSUB 6730
6470 PRINT :GOSUB 15790
6480 PRINT :GOSUB 15840
6490 PRINT :GOSUB 15810
6500 GOTO 6770
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6510 FOR X = 1 TO 4:PRINT :NEXT X
6520 GOSUB 15720
6530 PRINT :GOSUB 15770
6540 GOSUB 6730
6550 PRINT :GOSUB 15790
6560 PRINT :GOSUB 15840
6570 PRINT :GOSUB 15810
6580 GOTO 6770
6590 FOR X = 1 TO 5:PRINT :NEXT X
6600 GOSUB 15690
6610 PRINT :GOSUB 15790
6620 GOSUB 6730
6630 PRINT :GOSUB 15840
6640 PRINT :GOSUB 15810
6650 GOTO 6770
6660 FOR X = 1 TO 5:PRINT :NEXT X
6670 GOSUB 15690
6680 PRINT :GOSUB 15810
6690 GOSUB 6730
6700 PRINT :GOSUB 15840
6710 PRINT :GOSUB 15790
6720 GOTO 6770
6730 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
6740 PRINT TAB(4) "Buyers prefer cars which/that get good gas mileage, so they always"
6750 PRINT TAB(4) "check the sticker.":PRINT
6760 RETURN
6770 PRINT :GOSUB 15430
6780 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
6790 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
6800 IF C1 = 10 THEN GOTO 14190
6810 '*****EX. 1 QUESTION 14*****
6820 FOR X = 1 TO 7:PRINT :NEXT X
6830 PRINT TAB(12) "14. My sister is a girl _____ I can trust."
6840 GOSUB 15550
6850 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 6890
6860 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 6980
6870 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 7060
6880 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 7150
6890 FOR X = 1 TO 3:PRINT :NEXT X
6900 GOSUB 15720
6910 PRINT :GOSUB 15750
6920 GOSUB 7230
6930 PRINT :GOSUB 15770
6940 PRINT :GOSUB 15840
6950 PRINT :GOSUB 15810
6960 PRINT :GOSUB 15860
6970 GOTO 7260
6980 FOR X = 1 TO 4:PRINT :NEXT X
6990 GOSUB 15690
7000 PRINT :GOSUB 15770
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7010 GOSUB 7230
7020 PRINT :GOSUB 15840
7030 PRINT :GOSUB 15810
7040 PRINT :GOSUB 15860
7050 GOTO 7260
7060 FOR X = 1 TO 3:PRINT :NEXT X
7070 GOSUB 15720
7080 PRINT :GOSUB 15790
7090 GOSUB 7230
7100 PRINT :GOSUB 15770
7110 PRINT :GOSUB 15840
7120 PRINT :GOSUB 15810
7130 PRINT :GOSUB 15860
7140 GOTO 7260
7150 FOR X = 1 TO 4:PRINT :NEXT X
7160 GOSUB 15690
7170 PRINT :GOSUB 15810
7180 GOSUB 7230
7190 PRINT :GOSUB 15840
7200 PRINT :GOSUB 15770
7210 PRINT :GOSUB 15860
7220 GOTO 7260
7230 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
7240 PRINT TAB(4) "My sister is a girl whom/that I can trust.":PRINT
7250 RETURN
7260 PRINT :GOSUB 15430
7270 IF T1 - C1 = 5 AND SWITCH = 0 THEN GOSUB 15960
7280 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
7290 IF C1 = 10 THEN GOTO 14190
7300 '*****EX. 1 QUESTION 15*****
7310 FOR X = 1 TO 6:PRINT :NEXT X
7320 PRINT TAB(12) "15. We went to the Stones concert, _____ was sold out weeks ahead"
7330 PRINT TAB(12) "of time."
7340 GOSUB 15550
7350 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 7390
7360 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 7450
7370 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 7510
7380 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 7560
7390 FOR X = 1 TO 7:PRINT :NEXT X
7400 GOSUB 15720
7410 PRINT :GOSUB 15750
7420 GOSUB 7620
7430 PRINT :GOSUB 15790
7440 GOTO 7660
7450 FOR X = 1 TO 7:PRINT :NEXT X
7460 GOSUB 15720
7470 PRINT :GOSUB 15770
7480 GOSUB 7620
7490 PRINT :GOSUB 15790
7500 GOTO 7660
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7510 FOR X = 1 TO 8:PRINT :NEXT X
7520 GOSUB 15690
7530 PRINT :GOSUB 15790
7540 GOSUB 7620
7550 GOTO 7660
7560 FOR X = 1 TO 6:PRINT :NEXT X
7570 GOSUB 15720
7580 PRINT :GOSUB 15810
7590 GOSUB 7620
7600 PRINT :GOSUB 15790
7610 GOTO 7660
7620 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
7630 PRINT TAB(4) "We went to the Stones concert, which was sold out weeks ahead"
7640 PRINT TAB(4) "of time.":PRINT
7650 RETURN
7660 PRINT :GOSUB 15430
7670 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
7680 IF C1 = 10 THEN GOTO 14190
7690 '*****EX. 1 QUESTION 16*****
7700 FOR X = 1 TO 7:PRINT :NEXT X
7710 PRINT TAB(12) "16. Randy only wants to invite people _____ he knows well."
7720 GOSUB 15550
7730 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 7770
7740 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 7860
7750 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 7940
7760 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 8030
7770 FOR X = 1 TO 3:PRINT :NEXT X
7780 GOSUB 15720
7790 PRINT :GOSUB 15750
7800 GOSUB 8110
7810 PRINT :GOSUB 15770
7820 PRINT :GOSUB 15840
7830 PRINT :GOSUB 15810
7840 PRINT :GOSUB 15860
7850 GOTO 8140
7860 FOR X = 1 TO 4:PRINT :NEXT X
7870 GOSUB 15690
7880 PRINT :GOSUB 15770
7890 GOSUB 8110
7900 PRINT :GOSUB 15840
7910 PRINT :GOSUB 15810
7920 PRINT :GOSUB 15860
7930 GOTO 8140
7940 FOR X = 1 TO 3:PRINT :NEXT X
7950 GOSUB 15720
7960 PRINT :GOSUB 15790
7970 GOSUB 8110
7980 PRINT :GOSUB 15770
7990 PRINT :GOSUB 15840
8000 PRINT :GOSUB 15810
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8010 PRINT :GOSUB 15860
8020 GOTO 8140
8030 FOR X = 1 TO 4:PRINT :NEXT X
8040 GOSUB 15690
8050 PRINT :GOSUB 15810
8060 GOSUB 8110
8070 PRINT :GOSUB 15840
8080 PRINT :GOSUB 15770
8090 PRINT :GOSUB 15860
8100 GOTO 8140
8110 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
8120 PRINT TAB(4) "Randy only wants to invite people whom/that he knows well.":PRINT
8130 RETURN
8140 PRINT :GOSUB 15430
8150 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
8160 IF C1 = 10 THEN GOTO 14190
8170 '*****EX. 1 QUESTION 17*****
8180 FOR X = 1 TO 7:PRINT :NEXT X
8190 PRINT TAB(12) "17. Marcel brands sheep _____ are healthy."
8200 GOSUB 15550
8210 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 8250
8220 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 8330
8230 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 8410
8240 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 8480
8250 FOR X = 1 TO 4:PRINT :NEXT X
8260 GOSUB 15720
8270 PRINT :GOSUB 15750
8280 GOSUB 8550
8290 PRINT :GOSUB 15790
8300 PRINT :GOSUB 15840
8310 PRINT :GOSUB 15810
8320 GOTO 8580
8330 FOR X = 1 TO 4:PRINT :NEXT X
8340 GOSUB 15720
8350 PRINT :GOSUB 15770
8360 GOSUB 8550
8370 PRINT :GOSUB 15790
8380 PRINT :GOSUB 15840
8390 PRINT :GOSUB 15810
8400 GOTO 8580
8410 FOR X = 1 TO 5:PRINT :NEXT X
8420 GOSUB 15690
8430 PRINT :GOSUB 15790
8440 GOSUB 8550
8450 PRINT :GOSUB 15840
8460 PRINT :GOSUB 15810
8470 GOTO 8580
8480 FOR X = 1 TO 5:PRINT :NEXT X
8490 GOSUB 15690
8500 PRINT :GOSUB 15810
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8510 GOSUB 8550
8520 PRINT :GOSUB 15840
8530 PRINT :GOSUB 15790
8540 GOTO 8580
8550 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
8560 PRINT TAB(4) "Marcel brands sheep which/that are healthy.":PRINT
8570 RETURN
8580 PRINT :GOSUB 15430
8590 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
8600 IF C1 = 10 THEN 14190
8610 '*****EX. 1 QUESTION 18*****
8620 FOR X = 1 TO 6:PRINT :NEXT X
8630 PRINT TAB(12) "18. Mrs. Martin gave a birthday party for her son, _____ was a "
8640 PRINT TAB(12) "complete surprise."
8650 GOSUB 15550
8660 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 8700
8670 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 8760
8680 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 8820
8690 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 8870
8700 FOR X = 1 TO 7:PRINT :NEXT X
8710 GOSUB 15720
8720 PRINT :GOSUB 15750
8730 GOSUB 8930
8740 PRINT :GOSUB 15790
8750 GOTO 8970
8760 FOR X = 1 TO 7:PRINT :NEXT X
8770 GOSUB 15720
8780 PRINT :GOSUB 15770
8790 GOSUB 8930
8800 PRINT :GOSUB 15790
8810 GOTO 8970
8820 FOR X = 1 TO 8:PRINT :NEXT X
8830 GOSUB 15690
8840 PRINT :GOSUB 15790
8850 GOSUB 8930
8860 GOTO 8970
8870 FOR X = 1 TO 6:PRINT :NEXT X
8880 GOSUB 15720
8890 PRINT :GOSUB 15810
8900 GOSUB 8930
8910 PRINT :GOSUB 15790
8920 GOTO 8970
8930 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
8940 PRINT TAB(4) "Mrs. Martin gave a birthday party for her son, which was a "
8950 PRINT TAB(4) "complete surprise.":PRINT
8960 RETURN
8970 PRINT :GOSUB 15430
8980 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
8990 IF C2 = 10 THEN 14190
9000 '*****EX. 1 QUESTION 19*****
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9010 FOR X = 1 TO 6:PRINT :NEXT X
9020 PRINT TAB(12) "19. Choosing a puppy to give away is a decision _____ I must"
9030 PRINT TAB(12) "live with forever."
9040 GOSUB 15550
9050 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 9090
9060 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 9180
9070 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 9270
9080 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 9350
9090 FOR X = 1 TO 2:PRINT :NEXT X
9100 GOSUB 15720
9110 PRINT :GOSUB 15750
9120 GOSUB 9430
9130 PRINT :GOSUB 15790
9140 PRINT :GOSUB 15840
9150 PRINT :GOSUB 15810
9160 PRINT :GOSUB 15860
9170 GOTO 9470
9180 FOR X = 1 TO 2:PRINT :NEXT X
9190 GOSUB 15720
9200 PRINT :GOSUB 15770
9210 GOSUB 9430
9220 PRINT :GOSUB 15790
9230 PRINT :GOSUB 15840
9240 PRINT :GOSUB 15810
9250 PRINT :GOSUB 15860
9260 GOTO 9470
9270 FOR X = 1 TO 3:PRINT :NEXT X
9280 GOSUB 15690
9290 PRINT :GOSUB 15790
9300 GOSUB 9430
9310 PRINT :GOSUB 15840
9320 PRINT :GOSUB 15810
9330 PRINT :GOSUB 15860
9340 GOTO 9470
9350 FOR X = 1 TO 3:PRINT :NEXT X
9360 GOSUB 15690
9370 PRINT :GOSUB 15810
9380 GOSUB 9430
9390 PRINT :GOSUB 15840
9400 PRINT :GOSUB 15790
9410 PRINT :GOSUB 15860
9420 GOTO 9470
9430 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
9440 PRINT TAB(4) "Choosing a puppy to give away is a decision which/that I must"
9450 PRINT TAB(4) "live with forever.":PRINT
9460 RETURN
9470 PRINT :GOSUB 15430
9480 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
9490 IF C1 = 10 THEN 14190
9500 '*****EX. 1 QUESTION 20*****
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9510 FOR X = 1 TO 7:PRINT :NEXT X
9520 PRINT TAB(12) "20. I generally board only poodles, _____ are surprisingly smart anima
9530 GOSUB 15550
9540 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 9580
9550 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 9640
9560 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 9700
9570 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 9750
9580 FOR X = 1 TO 7:PRINT :NEXT X
9590 GOSUB 15720
9600 PRINT :GOSUB 15750
9610 GOSUB 9810
9620 PRINT :GOSUB 15790
9630 GOTO 9840
9640 FOR X = 1 TO 7:PRINT :NEXT X
9650 GOSUB 15720
9660 PRINT :GOSUB 15770
9670 GOSUB 9810
9680 PRINT :GOSUB 15790
9690 GOTO 9840
9700 FOR X = 1 TO 8:PRINT :NEXT X
9710 GOSUB 15690
9720 PRINT :GOSUB 15790
9730 GOSUB 9810
9740 GOTO 9840
9750 FOR X = 1 TO 6:PRINT :NEXT X
9760 GOSUB 15720
9770 PRINT :GOSUB 15810
9780 GOSUB 9810
9790 PRINT :GOSUB 15790
9800 GOTO 9840
9810 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
9820 PRINT TAB(4) "I generally board only poodles, which are surprisingly smart animals.":
9830 RETURN
9840 PRINT :GOSUB 15430
9850 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
9860 IF C1 = 10 THEN 14190
9870 '*****EX. 1 QUESTION 21*****
9880 FOR X = 1 TO 7:PRINT :NEXT X
9890 PRINT TAB(12) "21. Bill Rowley, _____ I know personally, is running for the Senate."
9900 GOSUB 15550
9910 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 9950
9920 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 10010
9930 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 10060
9940 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 10120
9950 FOR X = 1 TO 7:PRINT :NEXT X
9960 GOSUB 15720
9970 PRINT :GOSUB 15750
9980 GOSUB 10180
9990 PRINT :GOSUB 15770
10000 GOTO 10210

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10010 FOR X = 1 TO 8:PRINT :NEXT X
10020 GOSUB 15690
10030 PRINT :GOSUB 15770
10040 GOSUB 10180
10050 GOTO 10210
10060 FOR X = 1 TO 7:PRINT :NEXT X
10070 GOSUB 15720
10080 PRINT :GOSUB 15790
10090 GOSUB 10180
10100 PRINT :GOSUB 15770
10110 GOTO 10210
10120 FOR X = 1 TO 6:PRINT :NEXT X
10130 GOSUB 15720
10140 PRINT :GOSUB 15810
10150 GOSUB 10180
10160 PRINT :GOSUB 15770
10170 GOTO 10210
10180 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
10190 PRINT TAB(4) "Bill Rowley, whom I know personally, is running for the Senate."
10200 RETURN
10210 PRINT :GOSUB 15430
10220 IF C1 = 10 THEN GOTO 14190
10230 IF C1 = 7 THEN GOSUB 15350
10240 IF T1 - C1 = 21 THEN 15890
10250 '*****EX. 1 QUESTION 22*****
10260 FOR X = 1 TO 6:PRINT :NEXT X
10270 PRINT TAB(12) "22. Graduation, _____ falls on May 24, will be held in the stadium "
10280 GOSUB 15550
10290 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 10330
10300 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 10390
10310 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 10450
10320 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 10500
10330 FOR X = 1 TO 7:PRINT :NEXT X
10340 GOSUB 15720
10350 PRINT :GOSUB 15750
10360 GOSUB 10560
10370 PRINT :GOSUB 15790
10380 GOTO 10590
10390 FOR X = 1 TO 7:PRINT :NEXT X
10400 GOSUB 15720
10410 PRINT :GOSUB 15770
10420 GOSUB 10560
10430 PRINT :GOSUB 15790
10440 GOTO 10590
10450 FOR X = 1 TO 8:PRINT :NEXT X
10460 GOSUB 15690
10470 PRINT :GOSUB 15790
10480 GOSUB 10560
10490 GOTO 10590
10500 FOR X = 1 TO 6:PRINT :NEXT X
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10510 GOSUB 15720
10520 PRINT :GOSUB 15810
10530 GOSUB 10560
10540 PRINT:GOSUB 15790
10550 GOTO 10590
10560 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
10570 PRINT TAB(4) "Graduation, which falls on May 24, will be held in the stadium.":PR_NT
10580 RETURN
10590 PRINT :GOSUB 15430
10600 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
10610 IF C1 = 10 THEN 14190
10620 IF T1 - C1 = 21 THEN 15890
10630 '*****EX. 1 QUESTION 23*****
10640 FOR X = 1 TO 7:PRINT :NEXT X
10650 PRINT TAB(12) "23. Thomas is a lawyer _____ knows his business."
10660 GOSUB 15550
10670 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 10710
10680 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 10780
10690 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 10860
10700 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 10950
10710 FOR X = 1 TO 5:PRINT:NEXT X
10720 GOSUB 15690
10730 PRINT :GOSUB 15750
10740 GOSUB 11020
10750 PRINT :GOSUB 15840
10760 PRINT :GOSUB 15810
10770 GOTO 11050
10780 FOR X = 1 TO 4:PRINT :NEXT X
10790 GOSUB 15720
10800 PRINT :GOSUB 15770
10810 GOSUB 11020
10820 PRINT :GOSUB 15750
10830 PRINT :GOSUB 15840
10840 PRINT :GOSUB 15810
10850 GOTO 11050
10860 FOR X = 1 TO 3:PRINT :NEXT X
10870 GOSUB 15720
10880 PRINT :GOSUB 15790
10890 GOSUB 11020
10910 PRINT :GOSUB 15750
10920 PRINT :GOSUB 15840
10930 PRINT :GOSUB 15810
10940 GOTO 11050
10950 FOR X = 1 TO 5:PRINT :NEXT X
10960 GOSUB 15690
10970 PRINT :GOSUB 15810
10980 GOSUB 11020
10990 PRINT :GOSUB 15840
11000 PRINT :GOSUB 15750
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11010 GOTO 11050
11020 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
11030 PRINT TAB(4) "Thomas is a lawyer who/that knows his business.":PRINT
11040 RETURN
11050 PRINT :GOSUB 15430
11060 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
11070 IF C1 + 10 THEN 14190
11080 IF T1 - C1 = 21 THEN 15890
11090 '*****EX. 1 QUESTION 24*****
11100 FOR X = 1 TO 7:PRINT :NEXT X
11110 PRINT TAB(12) "24. Mark bowled a 243 the other night, _____ is unusual for him."
11120 GOSUB 15550
11130 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 11170
11140 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 11230
11150 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 11290
11160 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 11340
11170 FOR X = 1 TO 7:PRINT :NEXT X
11180 GOSUB 15720
11190 PRINT :GOSUB 15750
11200 GOSUB 11400
11210 PRINT :GOSUB 15790
11220 GOTO 11430
11230 FOR X = 1 TO 7:PRINT :NEXT X
11240 GOSUB 15720
11250 PRINT :GOSUB 15770
11260 GOSUB 11400
11270 PRINT :GOSUB 15790
11280 GOTO 11430
11290 FOR X = 1 TO 8:PRINT :NEXT X
11300 GOSUB 15690
11310 PRINT :GOSUB 15790
11320 GOSUB 11400
11330 GOTO 11430
11340 FOR X = 1 TO 6:PRINT :NEXT X
11350 GOSUB 15720
11360 PRINT :GOSUB 15810
11370 GOSUB 11400
11380 PRINT :GOSUB 15790
11390 GOTO 11430
11400 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
11410 PRINT TAB(4) "Mark bowled a 243 the other night, which is unusual for him.":PRINT
11420 RETURN
11430 PRINT :GOSUB 15430
11440 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
11450 IF C1 = 10 THEN 14190
11460 IF T1 - C1 = 21 THEN 15890
11470 '*****EX. 1 QUESTION 25*****
11480 FOR X = 1 TO 7:PRINT :NEXT X
11490 PRINT TAB(12) "25. Elliot only plays poker with people _____ he likes."
11500 GOSUB 15550
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11510 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 11550
11520 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 11640
11530 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 11720
11540 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 11810
11550 FOR X = 1 TO 3:PRINT :NEXT X
11560 GOSUB 15720
11570 PRINT :GOSUB 15750
11580 GOSUB 11890
11590 PRINT :GOSUB 15770
11600 PRINT :GOSUB 15840
11610 PRINT :GOSUB 15810
11620 PRINT :GOSUB 15860
11630 GOTO 11910
11640 FOR X = 1 TO 4:PRINT :NEXT X
11650 GOSUB 15690
11660 PRINT :GOSUB 15770
11670 GOSUB 11890
11680 PRINT :GOSUB 15840
11690 PRINT :GOSUB 15810
11700 PRINT :GOSUB 15860
11710 GOTO 11920
11720 FOR X = 1 TO 3:PRINT :NEXT X
11730 GOSUB 15720
11740 PRINT :GOSUB 15790
11750 GOSUB 11890
11760 PRINT :GOSUB 15770
11770 PRINT :GOSUB 15840
11780 PRINT :GOSUB 15810
11790 PRINT :GOSUB 15860
11800 GOTO 11920
11810 FOR X = 1 TO 4:PRINT :NEXT X
11820 GOSUB 15690
11830 PRINT :GOSUB 15810
11840 GOSUB 11890
11850 PRINT :GOSUB 15840
11860 PRINT :GOSUB 15770
11870 PRINT :GOSUB 15860
11880 GOTO 11920
11890 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
11900 PRINT TAB(4) "Elliot only plays poker with people whom/that he likes."
11910 RETURN
11920 PRINT :GOSUB 15430
11930 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
11940 IF C1 = 10 THEN 14190
11950 IF T1 - C1 = 21 THEN 15890
11960 '*****EX. 1 QUESTION 26*****
11970 FOR X = 1 TO 7:PRINT :NEXT X
11980 PRINT TAB(12) "26. The referee made a call _____ was terrible."
11990 GOSUB 15550
12000 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 12040
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12010 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 12120
12020 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 12200
12030 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 12270
12040 FOR X = 1 TO 4:PRINT :NEXT X
12050 GOSUB 15720
12060 PRINT :GOSUB 15750
12070 GOSUB 12340
12080 PRINT :GOSUB 15790
12090 PRINT :GOSUB 15840
12100 PRINT :GOSUB 15810
12110 GOTO 12370
12120 FOR X = 1 TO 4:PRINT :NEXT X
12130 GOSUB 15720
12140 PRINT :GOSUB 15790
12150 GOSUB 12340
12160 PRINT :GOSUB 15790
12170 PRINT :GOSUB 15840
12180 PRINT :GOSUB 15810
12190 GOTO 12370
12200 FOR X = 1 TO 5:PRINT :NEXT X
12210 GOSUB 15690
12220 PRINT :GOSUB 15790
12230 GOSUB 12340
12240 PRINT :GOSUB 15840
12250 PRINT :GOSUB 15810
12260 GOTO 12370
12270 FOR X = 1 TO 5:PRINT :NEXT X
12280 GOSUB 15690
12290 PRINT :GOSUB 15810
12300 GOSUB 12340
12310 PRINT :GOSUB 15840
12320 PRINT :GOSUB 15790
12330 GOTO 12370
12340 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
12350 PRINT TAB(4) "The referee made a call which/that was terrible.":PRINT
12360 RETURN
12370 PRINT :GOSUB 15430
12380 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
12390 IF C1 = 10 THEN 14190
12400 IF T1 - C1 = 21 THEN 15890
12410 "*****EX. 1 QUESTION 27*****"
12420 FOR X = 1 TO 7:PRINT :NEXT X
12430 PRINT TAB(12) "27. Mr. Carlson, _____ is going bald, usually wears a hat."
12440 GOSUB 15550
12450 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 12490
12460 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 12540
12470 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 12600
12480 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 12660
12490 FOR X = 1 TO 8:PRINT :NEXT X
12500 GOSUB 15690
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12510 PRINT :GOSUB 15750
12520 GOSUB 12720
12530 GOTO 12750
12540 FOR X = 1 TO 7:PRINT :NEXT X
12550 GOSUB 15720
12560 PRINT :GOSUB 15770
12570 GOSUB 12720
12580 PRINT :GOSUB 15750
12590 GOTO 12750
12600 FOR X = 1 TO 7:PRINT :NEXT X
12610 GOSUB 15720
12620 PRINT :GOSUB 15790
12630 GOSUB 12720
12640 PRINT :GOSUB 15750
12650 GOTO 12750
12660 FOR X = 1 TO 6:PRINT :NEXT X
12670 GOSUB 15720
12680 PRINT :GOSUB 15810
12690 GOSUB 12720
12700 PRINT :GOSUB 15750
12710 GOTO 12750
12720 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
12730 PRINT TAB(4) "Mr. Carlson, who is going bald, usually wears a hat.":PRINT
12740 RETURN
12750 PRINT :GOSUB 15430
12760 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
12770 IF C1 = 10 THEN 14190
12780 IF T1 - C1 = 21 THEN 15890
12790 '*****EX. 1 QUESTION 28*****
12800 FOR X = 1 TO 6:PRINT :NEXT X
12810 PRINT TAB(12) "28. Nancy and Laurie, for ____ I babysit, are both under six years"
12820 PRINT TAB(12) "of age."
12830 GOSUB 15550
12840 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 12880
12850 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 12940
12860 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 12990
12870 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 13050
12880 FOR X = 1 TO 7:PRINT :NEXT X
12890 GOSUB 15720
12900 PRINT :GOSUB 15750
12910 GOSUB 13110
12920 PRINT :GOSUB 15770
12930 GOTO 13150
12940 FOR X = 1 TO 8:PRINT :NEXT X
12950 GOSUB 15690
12960 PRINT :GOSUB 15770
12970 GOSUB 13110
12980 GOTO 13150
12990 FOR X = 1 TO 7:PRINT :NEXT X
13000 GOSUB 15720
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13010 PRINT :GOSUB 15790
13020 GOSUB 13110
13030 PRINT :GOSUB 15770
13040 GOTO 13150
13050 FOR X = 1 TO 6:PRINT :NEXT X
13060 GOSUB 15720
13070 PRINT :GOSUB 15810
13080 GOSUB 13110
13090 PRINT :GOSUB 15770
13100 GOTO 13150
13110 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
13120 PRINT TAB(4) "Nancy and Laurie, for whom I babysit, are both under six years"
13130 PRINT TAB(4) "of age.":PRINT
13140 RETURN
13150 PRINT :GOSUB 15430
13160 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
13170 IF C1 = 10 THEN 14190
13180 IF T1 - C1 = 21 THEN 15890
13190 *****EX. 1 QUESTION 29*****
13200 FOR X 1 TO 7:PRINT :NEXT X
13210 PRINT TAB(12) "29. He lives in a trailer _____ he built from scrap metal."
13220 GOSUB 15550
13230 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 13270
13240 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 13360
13250 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 13450
13260 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 13530
13270 FOR X = 1 TO 3:PRINT :NEXT X
13280 GOSUB 15720
13290 PRINT :GOSUB 15750
13300 GOSUB 13610
13310 PRINT :GOSUB 15790
13320 PRINT :GOSUB 15840
13330 PRINT :GOSUB 15810
13340 PRINT :GOSUB 15860
13350 GOTO 13640
13360 FOR X = 1 TO 3:PRINT :NEXT X
13370 GOSUB 15720
13380 PRINT :GOSUB 15770
13390 GOSUB 13610
13400 PRINT :GOSUB 15790
13410 PRINT :GOSUB 15840
13420 PRINT :GOSUB 15810
13430 PRINT :GOSUB 15860
13440 GOTO 13640
13450 FOR X = 1 TO 4:PRINT :NEXT X
13460 GOSUB 15690
13470 PRINT :GOSUB 15790
13480 GOSUB 13610
13490 PRINT :GOSUB 15840
13500 PRINT :GOSUB 15810
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13510 PRINT :GOSUB 15860
13520 GOTO 13640
13530 FOR X = 1 TO 4:PRINT :NEXT X
13540 GOSUB 15690
13550 PRINT :GOSUB 15810
13560 GOSUB 13610
13570 PRINT :GOSUB 15840
13580 PRINT :GOSUB 15790
13590 PRINT :GOSUB 15860
13600 GOTO 13640
13610 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
13620 PRINT TAB(4) "He lives in a trailer which/that he built from scrap metal.":PRINT
13630 RETURN
13640 PRINT :GOSUB 15430
13650 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
13660 IF C1 = 10 THEN 14190
13670 IF T1 - C1 = 21 THEN 15890
13680 '*****EX. 1 QUESTION 30*****
13690 FOR X = 1 TO 7:PRINT :NEXT X
13700 PRINT TAB(12) "30. Candy only opens the door for people _____ she recognizes." :PRI
13710 GOSUB 15550
13720 IF R$ = "A" OR R$ = "a" THEN CLS:GOTO 13760
13730 IF R$ = "B" OR R$ = "b" THEN CLS:GOTO 13850
13740 IF R$ = "C" OR R$ = "c" THEN CLS:GOTO 13930
13750 IF R$ = "D" OR R$ = "d" THEN CLS:GOTO 14020
13760 FOR X = 1 TO 3:PRINT :NEXT X
13770 GOSUB 15720
13780 PRINT :GOSUB 15750
13790 GOSUB 14100
13800 PRINT :GOSUB 15770
13810 PRINT :GOSUB 15840
13820 PRINT :GOSUB 15810
13830 PRINT :GOSUB 15860
13840 GOTO 14130
13850 FOR X = 1 TO 4:PRINT :NEXT X
13860 GOSUB 15690
13870 PRINT :GOSUB 15770
13880 GOSUB 14100
13890 PRINT :GOSUB 15840
13900 PRINT :GOSUB 15810
13910 PRINT :GOSUB 15860
13920 GOTO 14130
13930 FOR X = 1 TO 3:PRINT :NEXT X
13940 GOSUB 15720
13950 PRINT :GOSUB 15790
13960 GOSUB 14100
13970 PRINT :GOSUB 15770
13980 PRINT :GOSUB 15840
13990 PRINT :GOSUB 15810
14000 PRINT :GOSUB 15860
```

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14010 GOTO 14130
14020 FOR X = 1 TO 4:PRINT :NEXT X
14030 GOSUB 15690
14040 PRINT :GOSUB 15810
14050 GOSUB 14100
14060 PRINT :GOSUB 15840
14070 PRINT :GOSUB 15770
14080 PRINT :GOSUB 15860
14090 GOTO 14130
14100 PRINT :PRINT TAB(4) "THE CORRECT ANSWER IS"
14110 PRINT TAB(4) "Candy only opens the door for people whom/that she recognizes.":PRINT
14120 RETURN
14130 PRINT :GOSUB 15430
14140 IF C1 = 7 AND SWITCH2 = 0 THEN GOSUB 15350
14150 IF C1 = 10 THEN 14190
14160 IF T1 - C1 = 21 THEN 15890
14170 '*****EX. 1 SUBROUTINES & GOTO'S*****
14180 '*****10 CORRECT GOTO*****
14190 FOR X = 1 TO 8:PRINT :NEXT X
14200 PRINT TAB(11) "Congratulations, ";N$," you've answered 10 sentences correctly.":PRI
14210 PRINT TAB(11) "Your total on this exercise is ";C1;" correct out of ";T1;" for a " PR
14220 PRINT TAB(11) "score of ";C1/T1*100;"%. Let's move on to the next exercise."
14230 LPRINT :LPRINT TAB(11) "Congratulations, ";N$," you've answered 10 sentences correc
14240 LPRINT TAB(11) "Your total on this exercise is ";C1;" correct out of ";T1;" for a :L
14250 LPRINT TAB(11) "score of ";C1/T1*100;"%. Let's move on to the next exercise.":LPRIN
14260 FOR X = 1 TO 8:PRINT :NEXT X
14270 GOSUB 15430
14280 '*****SCREEN 14*****
14290 FOR X = 1 TO 10:PRINT :NEXT X
14300 PRINT TAB(10) "We'll be moving into Ex. 2 now. After you hit the space bar, the" PR
14310 PRINT TAB(10) "screen will say, 'OK.'" Then hit the F2 key to start the program." PR
14320 FOR X = 1 TO 8:PRINT :NEXT X
14330 GOSUB 15430
14340 LOAD"EX2.
14350 END
14360 '*****WHO,WHICH, AND THAT EXPLANATION SUBROUTINE*****
14370 FOR X = 1 TO 3:PRINT :NEXT X
14380 PRINT TAB(10) "*****WHO, WHICH, AND THAT FOLLOW DIFFERENT USAGE RULES*****"
14390 FOR X = 1 TO 2500:NEXT X
14400 PRINT:PRINT TAB(10) "WHO IS USED IN CLAUSES DESCRIBING PEOPLE"
14410 FOR X = 1 TO 3000: NEXT X
14420 PRINT TAB(16) "Rusty,(who is a fine son), just graduated from college."
14430 PRINT TAB(16) "My husband is one man (who likes to cook).":PRINT
14440 FOR X = 1 TO 7000:NEXT X
14450 PRINT TAB(10) "WHICH IS USED IN CLAUSES DESCRIBING ANYTHING BUT PEOPLE"
14460 FOR X = 1 TO 3000:NEXT X
14470 PRINT TAB(16) "I'm looking for a word (which I can spell)."
```

```

14510 PRINT TAB(10) "THAT CAN BE USED IN PLACE OF WHO AND WHICH"
14520 FOR X = 1 TO 3000:NEXT X
14530 PRINT TAB(16) "My husband is one man (that likes to cook)."
```

14540 PRINT TAB(16) "I'm looking for a word (that I can spell)."

14550 PRINT TAB(16) "Susan bought a dog (that obeys instantly).":PRINT :PRINT :PRINT

14560 FOR X = 1 TO 5000:NEXT X

14570 GOSUB 15430

14580 '*****DIFFERENCE BETWEEN WHO AND WHOM*****

14590 PRINT:PRINT

14600 PRINT TAB(14) "WHO is a little different from WHICH and THAT because"

14610 PRINT TAB(14) "it has two forms, depending on the position in the"

14620 PRINT TAB(14) "sentence. As a general rule, ";N\$";, WHO is used as"

14630 PRINT TAB(14) "the subject of a clause, and WHOM is used everywhere"

14640 PRINT TAB(14) "else. Look at the following examples:":PRINT

14650 FOR X = 1 TO 7000:NEXT X

14660 PRINT TAB(14) " S V"

14670 PRINT TAB(14) "Brian, WHO LIVES ON ELM STREET, is our paperboy.":PRINT

14680 PRINT TAB(14) " S V"

14690 PRINT TAB(14) "Brian, WHOM I LIKE VERY MUCH, is our paperboy.":PRINT:PRINT

14700 FOR X = 1 TO 7000:NEXT X

14710 PRINT TAB(14) " S V"

14720 PRINT TAB(14) "The cheerleader is dating a boy WHO PLAYS FOOTBALL.":PRINT

14730 PRINT TAB(14) " S V"

14740 PRINT TAB(14) "The cheerleader is dating a boy WHOM SHE SEES ON WEEKENDS.":PRINT:PRI

14750 GOSUB 15430

14760 '*****WHO/WHOM DRILL*****

14770 PRINT TAB(12) "THINK ABOUT WHETHER 'WHO' OR 'WHOM' BEST FITS IN THE"

14780 PRINT TAB(12) "SENTENCES BELOW. THE ANSWER WILL APPEAR 5 SECONDS LATER.":PRINT

14790 FOR X = 1 TO 3000:NEXT X

14800 PRINT TAB(12) "1. The police officer ____ SAVED THE GIRL'S LIFE deserves a medal."

14810 FOR X = 1 TO 5000:NEXT X

14820 PRINT TAB(34) "WHO":PRINT

14830 FOR X = 1 TO 2500:NEXT X

14840 PRINT TAB(12) "2. I prefer to talk to a salesman ____ I KNOW PERSONALLY."

14850 FOR X = 1 TO 5000:NEXT X

14860 PRINT TAB(46) "WHOM":PRINT

14870 FOR X = 1 TO 2500:NEXT X

14880 PRINT TAB(12) "3. Mary, ____ IS A BRIGHT GIRL, won the scholarship."

14890 FOR X = 1 TO 5000:NEXT X

14900 PRINT TAB(21) "WHO":PRINT

14910 FOR X = 1 TO 2500:NEXT X

14920 PRINT TAB(12) "4. Our king is a ruler ____ TAKES CARE OF HIS PEOPLE."

14930 FOR X = 1 TO 5000:NEXT X

14940 PRINT TAB(35) "WHO":PRINT

14950 FOR X = 1 TO 2500:NEXT X

14960 PRINT TAB(12) "5. Mrs. Burrows, ____ WE CAN TRUST, takes care of the house."

14970 FOR X = 1 TO 5000:NEXT X

14980 PRINT TAB(29) "WHOM":PRINT

14990 FOR X = 1 TO 2500:NEXT X

15000 PRINT TAB(12) "6. George dislikes people WITH ____ HE DISAGREES."

```

15010 FOR X = 1 TO 5000:NEXT X
15020 PRINT TAB(43) "WHOM":PRINT
15030 FOR X = 1 TO 2500:NEXT X
15040 GOSUB 15430
15050 '*****RESTRICTIVE AND NONRESTRICTIVE*****
15060 FOR X = 1 TO 8:PRINT :NEXT X
15070 PRINT TAB(16) "Now that you know the difference between WHO and WHOM":PRINT
15080 PRINT TAB(16) "and the various usage rules for WHO, WHICH, and THAT,":PRINT
15090 PRINT TAB(16) "we need to discuss when commas separate the clause from":PRINT
15100 PRINT TAB(16) "the main sentence.":PRINT
15110 FOR X = 1 TO 5:PRINT :NEXT X
15120 GOSUB 15430
15130 PRINT TAB(14) "->WHO and WHICH clauses will be set off with commas if the"
15140 PRINT TAB(16) "information is unnecessary to the sentence's meaning.":PRINT
15150 FOR X = 1 TO 6000:NEXT X
15160 PRINT TAB(19) "The athlete WHO FINISHES FIRST gets a trophy."
15170 PRINT TAB(19) "(You need to know which athlete.)":PRINT
15180 FOR X = 1 TO 4000:NEXT X
15190 PRINT TAB(19) "I ate an orange WHICH TASTED BAD."
15200 PRINT TAB(19) "(You need to know what kind of orange.)":PRINT
15210 FOR X = 1 TO 4000:NEXT X
15220 PRINT TAB(19) "Uncle Tim, WHO RAISES CHICKENS, took us fishing."
15230 PRINT TAB(19) "(The fact that he raises chickens is not important.)":PRINT
15240 FOR X = 1 TO 4000:NEXT X
15250 PRINT TAB(19) "Carol ordered squash with dinner, WHICH WAS SURPRISING."
15260 PRINT TAB(19) "(The fact that it was surprising is not important.)":PRINT
15270 FOR X = 1 TO 4000:NEXT X
15280 PRINT TAB(14) "->THAT is interchangeable with WHO and WHICH, but generally"
15290 PRINT TAB(16) "when no commas are used.":PRINT
15300 PRINT TAB(19) "The athlete THAT FINISHES FIRST gets a trophy.":PRINT
15310 PRINT TAB(19) "I ate an orange THAT TASTED BAD.":PRINT
15320 GOSUB 15430
15330 RETURN
15340 '*****7 CORRECT SUBROUTINE*****
15350 FOR X = 1 TO 10:PRINT :NEXT X
15360 SWITCH2 = 1
15370 PRINT TAB(18) "Keep going, ";NS;". You've gotten 7 correct.":PRINT
15380 PRINT TAB(18) "Only 3 more to go!"
15390 FOR X = 1 TO 8:PRINT :NEXT X
15400 GOSUB 15430
15410 RETURN
15420 '*****PRESS SPACE BAR TO CONTINUE SUBROUTINE*****
15430 PRINT TAB(27) "PRESS SPACE BAR TO CONTINUE"
15440 R$ = INKEY$:IF R$ = " " THEN 15440
15450 IF R$ = " " THEN 15470
15460 IF R$ <> " " THEN 15440
15470 CLS
15480 RETURN
15490 '*****YES OR NO SUBROUTINE*****
15500 PRINT TAB(35) "PRESS Y OR N"

```



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15510 R$ = INKEY$:IF R$ = "" THEN 15510
15520 IF R$ <> "Y" AND R$ <> "y" AND R$ <> "N" AND R$ <> "n" THEN 15510
15530 CLS
15540 RETURN
15550 '*****LETTER CHOICE SUBROUTINE*****
15560 T1 = T1 + 1
15570 PRINT:PRINT TAB(19) "a. who"
15580 PRINT:PRINT TAB(19) "b. whom"
15590 PRINT:PRINT TAB(19) "c. which"
15600 PRINT:PRINT TAB(19) "d. that"
15610 PRINT:PRINT:PRINT:PRINT
15620 PRINT "TYPE THE LETTER OF YOUR CHOICE AND PRESS RETURN"
15630 INPUT R$
15640 IF R$ <> "A" AND R$ <> "a" AND R$ <> "B" AND R$ <> "b" AND R$ <> "C" AND R$ <> "c" AND R$ <>
15650 GOTO 15670 "D" AND R$ <> "d" THEN 15660
15660 PRINT "YOUR ANSWER IS INVALID. TRY AGAIN.":GOTO 15630
15670 RETURN
15680 '*****EX. 1 RESPONSE SUBROUTINES*****
15690 PRINT TAB(4) "Right!"
15700 C1 = C1 + 1
15710 RETURN
15720 PRINT TAB(4) "Wrong."
15730 BEEP:FOR X = 1 TO 250:NEXT X:BEEP
15740 RETURN
15750 PRINT TAB(4) "WHO is used as the subject of any clause describing people."
15760 RETURN
15770 PRINT TAB(4) "WHOM is used as the object (not subject) of any clause describing peop
15780 RETURN
15790 PRINT TAB(4) "WHICH is used in clauses describing anything BUT people."
15800 RETURN
15810 PRINT TAB(4) "THAT is used in place of the other three, but it is generally limited"
15820 PRINT TAB(4) "to necessary clauses (no commas)."
```

```
15830 RETURN
```

```
15840 PRINT TAB(4) "Also,"
```

```
15850 RETURN
```

```
15860 PRINT TAB(4) "In this case, you could also omit the danger word altogether."
```

```
15870 RETURN
```

```
15880 '*****MISS 21 GOTO*****
```

```
15890 FOR X = 1 TO 9:PRINT :NEXT X
```

```
15900 PRINT TAB(14) "N$;", you seem to be having trouble understanding":PRINT
```

```
15910 PRINT TAB(14) "this concept. Refer to the ditto about how to turn":PRINT
```

```
15920 PRINT TAB(14) "me off, and please see a tutor for help."
```

```
15930 FOR X = 1 TO 7:PRINT :NEXT X
```

```
15940 END
```

```
15950 '*****MISS 5 SUBROUTINE*****
```

```
15960 FOR X = 1 TO 10:PRINT :NEXT X
```

```
15970 SWITCH = 1
```

```
15980 PRINT TAB(16) "You've missed 5, ";N$;"."
```

```
15990 PRINT TAB(6) "Do you want to review the explanation of WHO, WHICH, and THAT again?"
```

```
16000 FOR X = 1 TO 8:PRINT :NEXT X
```

```
16010 GOSUB 15490
16020 IF R$ = "N" OR R$ = "n" THEN GOTO 16040
16030 GOSUB 14360
16040 RETURN
16050 END
```

```
10 '*****EXERCISE 2*****
20 '*****SCREEN 15*****
30 FOR X = 1 TO 9:PRINT :NEXT X
40 PRINT TAB(20) "Hello again. We've switched to Exercise 2.":PRINT
50 PRINT TAB(20) "Type in your first name and press the RETURN key.":PRINT
60 INPUT " ";N$
70 CLS
80 CLS
90 GOSUB 2040
100 '*****SCREEN 16*****
110 FOR X = 1 TO 11:PRINT :NEXT X
120 PRINT TAB(16) "Do you want to go over the directions one more time?"
130 FOR X = 1 TO 9:PRINT :NEXT X
140 GOSUB 1980
150 IF R$ = "Y" OR R$ = "y" THEN GOSUB 2040
160 IF R$ = "N" OR R$ = "n" THEN 170
170 '*****EX. 2 QUESTION 1*****
180 SWITCH = 0
190 SWITCH2 = 0
200 E = 1
210 FOR X = 1 TO 3:PRINT :NEXT X
220 PRINT TAB(5) "DON'T FORGET TO PUT QUOTATION MARKS BEFORE THE FIRST WORD OF YOUR ANSWER
230 FOR X = 1 TO 5:PRINT :NEXT X
240 PRINT TAB(16) "1. My doctor plays golf every Monday.":PRINT
250 PRINT TAB(19) "He is very athletic. (who, 2 commas)":PRINT
260 S$ = "My doctor, who is very athletic, plays golf every Monday."
270 GOSUB 2920
280 IF AGAIN$ = "NO" THEN 330
290 IF AGAIN$ = "YES" THEN 300
300 PRINT:PRINT:PRINT "YOUR FIRST ANSWER WAS > "
310 PRINT AS
320 GOTO 230
330 '*****EX. 2 QUESTION 2*****
340 FOR X = 1 TO 5:PRINT :NEXT X
350 FOR X = 1 TO 4:PRINT :NEXT X
360 PRINT TAB(16) "2. The German diplomat is famous.":PRINT
370 PRINT TAB(19) "We should respect him. (whom, 2 commas)":PRINT
380 S$ = "The German diplomat, whom we should respect, is famous."
390 GOSUB 2920
400 IF AGAIN$ = "NO" THEN 460
410 IF AGAIN$ = "YES" THEN 420
420 FOR X = 1 TO 6:PRINT :NEXT X
430 PRINT "YOUR FIRST ANSWER WAS >"
440 PRINT AS
450 GOTO 350
460 '*****EX. 2 QUESTION 3*****
470 FOR X = 1 TO 5:PRINT :NEXT X
480 FOR X = 1 TO 4:PRINT :NEXT X
490 PRINT TAB(16) "3. Sally can ride a bike.":PRINT
500 PRINT TAB(19) "She couldn't do it before. (which, 1 comma)":PRINT
```

```
510 S$ = "Sally can ride a bike, which she couldn't do before."
520 GOSUB 2920
530 IF AGAIN$ = "NO" THEN 590
540 IF AGAIN$ = "YES" THEN 550
550 FOR X = 1 TO 6:PRINT:NEXT X
560 PRINT "YOUR FIRST ANSWER WAS >"
570 PRINT A$
580 GOTO 480
590 IF T2 - C2 = 3 AND SWITCH = 0 THEN GOSUB 3010
600 '*****EX. 2 QUESTION 4*****
610 FOR X = 1 TO 5:PRINT :NEXT X
620 FOR X = 1 TO 4:PRINT :NEXT X
630 PRINT TAB(16) "4. Mack prefers trucks.":PRINT
640 PRINT TAB(19) "The trucks have powerful engines. (that, 0 commas)":PRINT
650 S$ = "Mack prefers trucks that have powerful engines."
660 GOSUB 2920
670 IF AGAIN$ = "NO" THEN 730
680 IF AGAIN$ = "YES" THEN 690
690 FOR X = 1 TO 6:PRINT :NEXT X
700 PRINT "YOUR FIRST ANSWER WAS >"
710 PRINT A$
720 GOTO 620
730 IF T2 - C2 = 3 AND SWITCH = 0 THEN GOSUB 3010
740 '*****EX. 2 QUESTION 5*****
750 FOR X = 1 TO 5:PRINT :NEXT X
760 FOR X = 1 TO 4:PRINT :NEXT X
770 PRINT TAB(16) "5. My brother invited several people.":PRINT
780 PRINT TAB(19) "They were experts. (who, 0 commas)":PRINT
790 S$ = "My brother invited several people who were experts."
800 GOSUB 2920
810 IF AGAIN$ = "NO" THEN 870
820 IF AGAIN$ = "YES" THEN 830
830 FOR X = 1 TO 6:PRINT :NEXT X
840 PRINT "YOUR FIRST ANSWER WAS >"
850 PRINT A$
860 GOTO 760
870 IF T2 - C2 = 3 AND SWITCH = 0 THEN GOSUB 3010
880 '*****EX. 2 QUESTION 6*****
890 FOR X = 1 TO 5:PRINT :NEXT X
900 FOR X = 1 TO 4:PRINT :NEXT X
910 PRINT TAB(16) "6. Tracy plays tennis with her brother.":PRINT
920 PRINT TAB(19) "She can usually beat him. (whom, 0 commas)":PRINT
930 S$ = "Tracy plays tennis with her brother whom she can usually beat."
940 GOSUB 2920
950 IF AGAIN$ = "NO" THEN 1010
960 IF AGAIN$ = "YES" THEN 970
970 FOR X = 1 TO 6:PRINT :NEXT X
980 PRINT "YOUR FIRST ANSWER WAS >"
990 PRINT A$
1000 GOTO 900
```



```
1010 IF T2 - C2 = 3 AND SWITCH = 0 THEN GOSUB 3010
1020 '*****EX. 2 QUESTION 7*****
1030 FOR X = 1 TO 5:PRINT :NEXT X
1040 FOR X = 1 TO 4:PRINT :NEXT X
1050 PRINT TAB(16) "7. Wendy picked up the perfume and bought it.":PRINT
1060 PRINT TAB(19) "The perfume smelled like flowers. (which, 0 commas)":PRINT
1070 $$ = "Wendy picked up the perfume which smelled like flowers and bought it."
1080 GOSUB 2920
1090 IF AGAIN$ = "NO" THEN 1150
1100 IF AGAIN$ = "YES" THEN 1110
1110 FOR X = 1 TO 6:PRINT :NEXT X
1120 PRINT "YOUR FIRST ANSWER WAS >"
1130 PRINT AS
1140 GOTO 1040
1150 IF T2 - C2 = 3 AND SWITCH = 0 THEN GOSUB 3010
1160 IF C2 = 7 AND SWITCH2 = 0 THEN GOSUB 1840
1170 '*****EX. 2 QUESTION 8*****
1180 FOR X = 1 TO 5:PRINT :NEXT X
1190 FOR X = 1 TO 3:PRINT :NEXT X
1200 PRINT TAB(16) "8. One person will win a trip.":PRINT
1210 PRINT TAB(19) "The person has a winning ticket. (that, 0 commas)":PRINT
1220 $$ = "One person that has a winning ticket will win a trip."
1230 GOSUB 2920
1240 IF AGAIN$ = "NO" THEN 1300
1250 IF AGAIN$ = "YES" THEN 1260
1260 FOR X = 1 TO 6:PRINT :NEXT X
1270 PRINT "YOUR FIRST ANSWER WAS >"
1280 PRINT AS
1290 GOTO 1190
1300 IF T2 - C2 = 3 AND SWITCH = 0 THEN GOSUB 3010
1310 IF C2 = 7 AND SWITCH2 = 0 THEN GOSUB 1840
1320 '*****EX. 2 QUESTION 9*****
1330 FOR X = 1 TO 5:PRINT :NEXT X
1340 FOR X = 1 TO 4:PRINT :NEXT X
1350 PRINT TAB(16) "9. The article was about Frank Kelly.":PRINT
1360 PRINT TAB(19) "He has written several novels. (who, 1 comma)":PRINT
1370 $$ = "The article was about Frank Kelly, who has written several novels."
1380 GOSUB 2920
1390 IF AGAIN$ = "NO" THEN 1450
1400 IF AGAIN$ = "YES" THEN 1410
1410 FOR X = 1 TO 6:PRINT :NEXT X
1420 PRINT "YOUR FIRST ANSWER WAS >"
1430 PRINT AS
1440 GOTO 1340
1450 IF T2 - C2 = 3 AND SWITCH = 0 THEN GOSUB 3010
1460 IF C2 = 7 AND SWITCH2 = 0 THEN GOSUB 1840
1470 '*****EX. 2 QUESTION 10*****
1480 FOR X = 1 TO 5:PRINT :NEXT X
1490 FOR X = 1 TO 4:PRINT :NEXT X
1500 PRINT TAB(16) "10. Mrs. Crawford loves children.":PRINT
```

```
1510 PRINT TAB(19) "She trusts them more than adults. (whom, 1 comma)":PRINT
1520 S$ = "Mrs. Crawford loves children, whom she trusts more than adults."
1530 GOSUB 2920
1540 IF AGAIN$ = "NO" THEN 1620
1550 IF AGAIN$ = "YES" THEN 1560
1560 FOR X = 1 TO 6:PRINT :NEXT X
1570 IF C2 = 10 THEN GOTO 1650
1580 PRINT "YOUR FIRST ANSWER WAS >"
1590 PRINT A$
1600 GOTO 1490
1610 IF T2 - C2 = 3 AND SWITCH = 0 THEN GOSUB 3010
1620 IF C2 = 7 AND SWITCH2 = 0 THEN GOSUB 1840
1630 GOTO 3110
1640 '*****EX. 2 SUBROUTINES & GOTO'S*****
1650 '***** 10 CORRECT GOTO*****
1660 FOR X = 1 TO 8:PRINT :NEXT X
1670 PRINT TAB(11) "Congratulations, ";N$; ", you've answered 10 sentences correctly.":PRIN
1680 PRINT TAB(11) "Your total on this exercise is ";C2;" correct out of ";T2;" for a"; R
1690 PRINT TAB(11) "score of ";C2/T2*100;"%. Let's move on to the next exercise."
1700 LPRINT :LPRINT TAB(11) "Congratulations, ";N$; ", you've answered 10 sentences correct
1710 LPRINT TAB(11) "Your total on this exercise is ";C2;" correct out of ";T2;" for a" :L
1720 LPRINT TAB(11) "score of ";C2/T2*100;"%. Let's move on to the next exercise.":LPRINT
1730 FOR X = 1 TO 8:PRINT :NEXT X
1740 GOSUB 1920
1750 '*****SCREEN 17*****
1760 FOR X = 1 TO 10:PRINT :NEXT X
1770 PRINT TAB(10) "We'll be moving into Ex. 3, 4, and 5 now. After you hit the space" :R
1780 PRINT TAB(10) "bar, the screen will say, 'OK.'" Then press F2 to start the program.'
1790 FOR X = 1 TO 8:PRINT :NEXT X
1800 GOSUB 1920
1810 LOAD"EX34.
1820 END
1830 '*****7 CORRECT SUBROUTINE*****
1840 FOR X = 1 TO 10:PRINT :NEXT X
1850 SWITCH2 = 0
1860 PRINT TAB(18) "Good job, ";N$; ". You've gotten 7 correct.":PRINT
1870 PRINT TAB(18) "You must understand this concept!"
1880 FOR X = 1 TO 8:PRINT :NEXT X
1890 GOSUB 1920
1900 RETURN
1910 '*****PRESS SPACE BAR TO CONTINUE SUBROUTINE*****
1920 PRINT TAB(27) "PRESS SPACE BAR TO CONTINUE"
1930 R$ = INKEY$:IF R$ = "" THEN 1930
1940 IF R$ = " " THEN 1960
1950 IF R$ <> " " THEN 1930
1960 CLS
1970 RETURN
1980 '*****YES OR NO SUBROUTINE*****
1990 PRINT TAB(35) "PRESS Y OR N"
2000 R$ = INKEY$:IF R$ = "" THEN 2000
```

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2010 IF R$ <> "y" AND R$ <> "Y" AND R$ <> "n" AND R$ <> "N" THEN 2000
2020 CLS
2030 RETURN
2040 *****INSTRUCTIONS EX. 2 SUBROUTINE*****
2050 *****INSTRUCTIONS PART I*****
2060 PRINT TAB(16) N$;" , I will give you two related sentences. In each pair,":PRINT
2070 PRINT TAB(16) "you will change the SECOND sentence into a clause, using the given":PRINT
2080 PRINT TAB(16) "given danger word (WHO/WHOM, WHICH or THAT) and the given":PRINT
2090 PRINT TAB(16) "punctuation. Then you must decide which word or idea in the":PRINT
2100 PRINT TAB(16) "first sentence that clause is describing. Put the clause":PRINT
2110 PRINT TAB(16) "immediately after that word or idea as you retype the first":PRINT
2120 PRINT TAB(16) "sentence, even if it appears in the middle of the sentence.":PRINT
2130 PRINT TAB(16) "Although I will give you what punctuation to use, notice how":PRINT
2140 PRINT TAB(16) "the commas indicate unnecessary information. Relax! I know":PRINT
2150 PRINT TAB(16) "this is a lot to remember, but I'll give you some typing":PRINT
2160 PRINT TAB(16) "instructions and a couple of examples first.":PRINT:PRINT
2170 GOSUB 1920
2180 *****INSTRUCTIONS PART II*****
2190 PRINT:PRINT:PRINT TAB(16) "BE EXACT IN YOUR TYPING! IF YOU DO NOT FOLLOW THE NEXT"
2200 PRINT TAB(16) "FOUR TYPING INSTRUCTIONS, I WILL HAVE TO MARK YOUR ANSWER"
2210 PRINT TAB(16) "INCORRECT.":PRINT
2220 PRINT TAB(16) "1. ALWAYS TYPE QUOTATION MARKS IMMEDIATELY BEFORE THE FIRST"
2230 PRINT TAB(19) "WORD OF THE SENTENCE. IF YOU FORGET, I WILL SAY 'REDO FROM"
2240 PRINT TAB(19) "START,' WHICH MEANS TO RETYPE THE SENTENCE.":PRINT
2250 PRINT TAB(16) "2. USE THE SHIFT KEY FOR NORMAL CAPITALIZATION.":PRINT
2260 PRINT TAB(16) "3. EDIT ALL ERRORS (SUCH AS SPELLING AND SPACING) BEFORE":PRINT TAB(19) "PRESSING
THE RETURN KEY. SEE DITTO.":PRINT
2270 PRINT TAB(16) "4. IF YOUR ANSWER IS TOO LONG, IT WILL SPLIT AND DROP TO THE":PRINT TAB(19) "NEXT
LINE. IT'S SUPPOSED TO TO THIS.":PRINT:PRINT:PRINT
2280 GOSUB 1920
2290 *****INSTRUCTIONS PART III*****
2300 PRINT TAB(11) "LOOK AT THE FOLLOWING EXAMPLES":PRINT
2310 PRINT TAB(11) "1. Bill ate lunch alone."
2320 PRINT TAB(14) "Nobody liked Bill. (whom, 2 commas)":PRINT
2330 PRINT TAB(14) "(The second sentence describes Bill, so the WHOM clause will"
2340 PRINT TAB(14) "follow the word 'Bill,' surrounded by 2 commas.)":PRINT
2350 FOR X = 1 TO 9000:NEXT X
2360 PRINT TAB(6) "ANSWER: 'Bill, whom nobody liked, ate lunch alone.''"
2370 PRINT TAB(14) "(Notice that the repeated word 'Bill' must be dropped.)":PRINT:PRINT
2380 FOR X = 1 TO 7000:NEXT X
2390 PRINT TAB(11) "2. My neighbor mows his lawn at 6am."
2400 PRINT TAB(14) "It wakes me up. (which, 1 comma)":PRINT
2410 PRINT TAB(14) "(The second sentence describes an idea that happens to be at the"
2420 PRINT TAB(14) "end, so the WHICH clause will follow it, preceded by 1 comma.)":PRINT
2430 FOR X = 1 TO 9000:NEXT X
2440 PRINT TAB(6) "ANSWER: 'My neighbor mows his lawn at 6am, which wakes me up.''"
2450 PRINT TAB(14) "(Notice that the pronoun 'it' must be dropped)":PRINT:PRINT
2460 GOSUB 1920
2470 *****INSTRUCTIONS PART IV*****
2480 FOR X = 1 TO 10:PRINT :NEXT X
2490 PRINT TAB(14) "REMEMBER, ";N$;" , YOU MUST PUT THE CLAUSE IMMEDIATELY"
2500 PRINT TAB(14) "AFTER THE WORD OR CONCEPT DESCRIBED, EVEN THOUGH IT"

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2510 PRINT TAB(14) "MIGHT SOUND FINE ELSEWHERE, TOO. THAT MAKES IT POSSIBLE"
2520 PRINT TAB(14) "FOR ME TO CHECK YOUR ANSWER."
2530 FOR X = 1 TO 7:PRINT :NEXT X
2540 GOSUB 1920
2550 '***** INSTRUCTIONS PART V*****
2560 FOR X = 1 TO 10:PRINT :NEXT X
2570 PRINT TAB(16) "Unlike Exercise 1, you will only have 10 sentences to do.":PRINT
2580 PRINT TAB(16) "Be sure to double-check your typing.":PRINT
2590 FOR X = 1 TO 8: PRINT :NEXT X
2600 GOSUB 1920
2610 RETURN
2620 '*****CHECK ANSWER SUBROUTINE*****
2630 '*****CORRECT ANSWER SUBROUTINE*****
2640 E = 1
2650 T2 = T2 + 1:C2 = C2 + 1:GOTO 2660
2660 FOR X = 1 TO 11:PRINT :NEXT X
2670 PRINT TAB(16) "THAT'S RIGHT, ";N$;".":FOR X = 1 TO 9:PRINT:NEXT X
2680 GOSUB 1920
2690 RETURN
2700 '*****INCORRECT -- FIRST TIME SUBROUTINE*****
2710 E = 2
2720 FOR X = 1 TO 7:PRINT :NEXT X
2730 PRINT "OOPS, ";N$;". CAN YOU SEE WHAT YOU DID WRONG?":PRINT :PRINT
2740 BEEP:FOR X = 1 TO 250:NEXT X:BEEP
2750 PRINT "YOUR ANSWER WAS > "
2760 PRINT A$:PRINT:PRINT
2770 PRINT "TRY AGAIN."
2780 FOR X = 1 TO 5:PRINT:NEXT X
2790 GOSUB 1920
2800 RETURN
2810 '*****INCORRECT -- FINAL TRY SUBROUTINE*****
2820 E = 1
2830 IF EX = 3 THEN GOTO 2850
2840 T2 = T2 + 1:GOTO 2860
2850 T3 = T3 + 1
2860 FOR X = 1 TO 6:PRINT :NEXT X
2870 PRINT TAB(4) "NO, ";N$;".":PRINT:PRINT TAB(4) "THE CORRECT ANSWER IS >":PRINT TAB(4)
2880 PRINT:PRINT TAB(4) "YOUR SECOND ANSWER WAS >":PRINT TAB(4) A$
2890 FOR X = 1 TO 7:PRINT :NEXT X
2900 RETURN
2910 '*****EXERCISE 2 CHECK SUBROUTINE*****
2920 PRINT:PRINT:PRINT
2930 PRINT "TYPE YOUR ANSWER AND PRESS THE RETURN KEY
2940 INPUT A$
2950 IF A$ = S$ THEN CLS:GOSUB 2630:AGAIN$ = "NO":GOTO 2990
2960 IF A$ <> S$ AND E = 1 THEN CLS:GOSUB 2700:AGAIN$ = "YES":GOTO 2990
2970 IF A$ <> S$ AND E = 2 THEN CLS:GOSUB 2810:AGAIN$ = "NO"
2980 GOSUB 1920
2990 RETURN
3000 '*****MISS 3 SUBROUTINE*****
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3010 FOR X = 1 TO 10:PRINT :NEXT X
3020 SWITCH = 0
3030 PRINT TAB(16) "You've missed 3, ";NS$;"."
3040 PRINT TAB(16) "Do you want to go over the directions again?"
3050 FOR X = 1 TO 8:PRINT :NEXT X
3060 GOSUB 1980
3070 IF R$ = "N" OR R$ = "n" THEN GOTO 3100
3080 GOSUB 2040
3090 CLS
3100 RETURN
3110 '*****FINISH 10 GOTO*****
3120 FOR X = 1 TO 8:PRINT :NEXT X
3130 PRINT TAB(11) "Congratulations, ";NS$;", you've finished 10 sentences.":PRINT
3140 PRINT TAB(11) "Your total on this exercise is ";C2;" correct out of ";T2;" for":PRINT
3150 PRINT TAB(11) "a score of ";C2/T2*100;"%. Let's move on to the next exercise."
3160 LPRINT TAB(11) "Congratulations, ";NS$;", you've finished 10 sentences.":LPRINT
3170 LPRINT TAB(11) "Your total on this exercise is ";C2;" correct out of ";T2;" for":LPRI
3180 LPRINT TAB(11) "a score of ";C2/T2*100;"%. Let's move on to the next exercise.":LPRI
3190 FOR X = 1 TO 8:PRINT :NEXT X
3200 GOSUB 1920
3210 '*****SCREEN 17*****
3220 FOR X = 1 TO 10:PRINT :NEXT X
3230 PRINT TAB(14) "We'll be moving into Ex. 3, 4, and 5 now. After you hit the space":PF
3240 PRINT TAB(14) "bar, the screen will say, 'OK.'" Press F2 to start the program."
3250 FOR X = 1 TO 8:PRINT :NEXT X
3260 GOSUB 1920
3270 LOAD"EX345.
3280 END
3290 END
```

Exercise 3

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10 ***** EXERCISES 3, 4, and 5*****
20 ***** EXERCISE 3 *****
30 ***** SCREEN 18*****
40 FOR X = 1 TO 9:PRINT :NEXT X
50 PRINT TAB(20) "Hello again. We've switched to Exercises 3, 4, and 5.":PRINT
60 PRINT TAB(20) "Type in your first name and press the RETURN key.":PRINT
70 INPUT " ";N$
80 CLS
90 ***** SCREEN 19 *****
100 E = 1
110 EX = 3
120 PRINT :PRINT
130 PRINT TAB(12) N$;" , let's try the same process you used in Exercise 2,":PRINT
140 PRINT TAB(12) "this time with a paragraph. I will type two sentences at a":PRINT
150 PRINT TAB(12) "time in all capitals, so you will know which to combine, and then":PRINT
160 PRINT TAB(12) "give you the danger word and punctuation. As before, change the":PRINT
170 PRINT TAB(12) "SECOND sentence into a clause, and then put it after the":PRINT
180 PRINT TAB(12) "word/idea which it is describing in the first sentence. Don't":PRINT
190 PRINT TAB(12) "forget the quotation mark at the beginning of each sentence,":PRINT
200 PRINT TAB(12) "and even though I will highlight each pair of sentences in":PRINT
210 PRINT TAB(12) "all capitals, you are to use normal capitalization. Ready?":PRINT:PRINT
220 GOSUB 3550
230 ***** EX. 3 FIRST PAIR *****
240 PRINT:PRINT
250 FOR X = 1 TO 5:PRINT :NEXT X
260 PRINT TAB(19) "I RAN AWAY AT THE AGE OF SIX TO JOIN THE CIRCUS."
270 PRINT TAB(16) "IT HAPPENED TO BE IN TOWN THAT DAY. (which, 1 comma)"
280 PRINT TAB(16) "For the first three hours, I enjoyed wandering around"
290 PRINT TAB(16) "the various sideshows. Then I began to miss my "
300 PRINT TAB(16) "mother and I started to cry. She was probably worried"
310 PRINT TAB(16) "sick. A big clown noticed my tears and called her for me."
320 PRINT TAB(16) "He was wearing baggy pants. Clowns have been my favorite"
330 PRINT TAB(16) "part of the circus ever since."
340 FOR X = 1 TO 3:PRINT :NEXT X
350 S1$ = "I ran away at the age of six to join the circus, which happened to be in town t
360 S2$ = "I ran away at the age of six to join the circus, which happened to be in tow t
370 S3$ = "I ran away at the age of six to join the circus, which happened to be in town
380 GOSUB 4300
390 IF AGAIN$ = "NO" THEN 450
400 IF AGAIN$ = "YES" THEN 410
410 PRINT :PRINT
420 PRINT "YOUR FIRST ANSWER WAS >"
430 PRINT A$
440 GOTO 250
450 ***** EX. 3 SECOND PAIR *****
460 PRINT:PRINT
470 PRINT:PRINT:PRINT
480 PRINT TAB(19) "I ran away at the age of six to join the circus, which "
490 PRINT TAB(16) "happened to be in town that day. For the first three"
500 PRINT TAB(16) "hours, I enjoyed wandering around the various sideshows."
510 PRINT TAB(16) "THEN I BEGAN TO MISS MY MOTHER AND I STARTED TO CRY. "
520 PRINT TAB(16) "SHE WAS PROBABLY WORRIED SICK. (who, 2 commas) A big"
530 PRINT TAB(16) "clown noticed my tears and called her for me. He was"
540 PRINT TAB(16) "wearing baggy pants. Clowns have been my favorite part"
550 PRINT TAB(16) "of the circus ever since.":PRINT:PRINT:PRINT

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560 S1$ = "Then I began to miss my mother, who was probably worried sick, and I started to
570 S2$ = "Then I began to miss my mother, who was probably worried sick, and I started to
580 S3$ = "Then I began to miss my mother, who was probably worried sick, and I started to
590 GOSUB 4300
600 IF AGAIN$ = "NO" THEN 660
610 IF AGAIN$ = "YES" THEN 620
620 FOR X = 1 TO 3:PRINT :NEXT X
630 PRINT "YOUR FIRST ANSWER WAS >"
640 PRINT AS
650 GOTO 470
660 '***** EX. 3 THIRD PAIR *****
670 PRINT:PRINT
680 PRINT:PRINT:PRINT
690 PRINT TAB(19) "I ran away at the age of six to join the circus, which "
700 PRINT TAB(16) "happened to be in town that day. For the first three"
710 PRINT TAB(16) "hours, I enjoyed wandering around the various sideshows."
720 PRINT TAB(16) "Then I began to miss my mother, who was probably worried"
730 PRINT TAB(16) "sick, and I started to cry. A BIG CLOWN NOTICED MY TEARS"
740 PRINT TAB(16) "AND CALLED HER FOR ME. HE WAS WEARING BAGGY PANTS. (that,"
750 PRINT TAB(16) "0 commas) Clowns have been my favorite part of the circus"
760 PRINT TAB(16) "every since.":PRINT:PRINT:PRINT
770 S1$ = "A big clown that was wearing baggy pants noticed my tears and called her for me
780 S2$ = "A big clown that was wearing baggy pants noticed my tears and called her for me
790 S3$ = "A big clown that was wearing baggy pants noticed my tears and called her for me
800 GOSUB 4300
810 IF AGAIN$ = "NO" THEN 870
820 IF AGAIN$ = "YES" THEN 830
830 FOR X = 1 TO 3:PRINT :NEXT X
840 PRINT "YOUR FIRST ANSWER WAS >"
850 PRINT AS
860 GOTO 680
870 '***** EX.3 REVISED PARAGRAPH*****
880 PRINT TAB(27) "DOESN'T THIS SOUND MUCH SMOOTHER?"
890 PRINT
900 PRINT TAB(37) "REVISED"
910 PRINT TAB(19) "I ran away at the age of six to join the circus, which"
920 PRINT TAB(16) "happened to be in town that day. For the first three"
930 PRINT TAB(16) "hours, I enjoyed wandering around the various sideshows."
940 PRINT TAB(16) "Then I began to miss my mother, who was probably worried"
950 PRINT TAB(16) "sick, and I started to cry. A big clown that was wearing"
960 PRINT TAB(16) "baggy pants noticed my tears and called her for me."
970 PRINT TAB(16) "Clowns have been my favorite part of the circus ever"
980 PRINT TAB(16) "since."
990 PRINT
1000 PRINT TAB(37) "ORIGINAL"
1010 PRINT TAB(19) "I ran away at the age of six to join the circus. It"
1020 PRINT TAB(16) "happened to be in town that day. For the first three"
1030 PRINT TAB(16) "hours, I enjoyed wandering around the various sideshows."
1040 PRINT TAB(16) "Then I began to miss my mother and I started to cry. She"
1050 PRINT TAB(16) "was probably worried sick. A big clown noticed my tears"
1060 PRINT TAB(16) "and called her for me. He was wearing baggy pants. Clowns"
1070 PRINT TAB(16) "have been my favorite part of the circus ever since."
1080 PRINT :PRINT
1090 GOSUB 3550
1100 GOSUB 3610

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Exercise 5

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2020 '***** EXERCISE 5 *****
2030 '***** SCREEN 21*****
2040 EX = 5
2050 E = 1
2060 FOR X = 1 TO 4:PRINT :NEXT X
2070 PRINT TAB(11) "In Exercise 5, ";N$;", you're on your own again. I will":PRINT
2080 PRINT TAB(11) "give you a choppy paragraph, and you must combine each":PRINT
2090 PRINT TAB(11) "capitalized pair of sentences as before, but YOU will":PRINT
2100 PRINT TAB(11) "determine the danger word and punctuation to be used.":PRINT
2110 PRINT TAB(11) "More than one danger word might be appropriate, of course.":PRINT
2120 PRINT TAB(11) "Type each revised sentence beneath the original paragraph.":PRINT
2130 PRINT TAB(11) "and don't forget the quotation mark. (Incidentally, there are no":RI
2140 PRINT TAB(11) "free sentences in this paragraph; normally there would be."):PRINT :PR
2150 GOSUB 3550
2160 '***** EX.5 FIRST PAIR *****
2170 PRINT:PRINT
2180 PRINT:PRINT:PRINT
2190 PRINT TAB(8) "MANY FAMILIES IN AMERICA MUST DECIDE WHETHER OR NOT TO BUY A"
2200 PRINT TAB(5) "WATCHDOG. IT IS SOMETHING THAT MAY BE CRUCIAL TO SURVIVAL. People are
2210 PRINT TAB(5) "more than twenty minutes from the nearest police station. They live"
2220 PRINT TAB(5) "in the country. A good watchdog can warn them of intruders. The in ru
2230 PRINT TAB(5) "might be creeping around the lawn. Hearing the dog bark, the family"
2240 PRINT TAB(5) "can turn on all their lights. The intruders probably think they are"
2250 PRINT TAB(5) "sleeping. A watchdog is worth a lot of money. It is loyal to its f mi
2260 S1$="Many families in America must decide whether or not to buy a watchdog, which is something
that may be crucial to survival."
2270 S2$=(same)
2280 PRINT:PRINT:PRINT
2290 S3$ = "Many families in American must decide whether or not to buy a watchdog, which is something
2300 GOSUB 4300 that may be crucial to survival."
2310 IF AGAIN$ = "NO" THEN 2370
2320 IF AGAIN$ = "YES" THEN 2330
2330 FOR X = 1 TO 3:PRINT :NEXT X
2340 PRINT "YOUR FIRST ANSWER WAS >"
2350 PRINT AS
2360 GOTO 2180
2370 '***** EX.5 SECOND PAIR *****
2380 PRINT:PRINT
2390 PRINT:PRINT:PRINT
2400 PRINT TAB(8) "Many families in America must decide whether or not to buy a watchdo ,"
2410 PRINT TAB(5) "which is something that may be crucial to survival. PEOPLE ARE"
2420 PRINT TAB(5) "MORE THAN TWENTY MINUTES FROM THE NEAREST POLICE STATION. THEY LIVE"
2430 PRINT TAB(5) "IN THE COUNTRY. A good watchdog can warn them of intruders. The"
2440 PRINT TAB(5) "intruders might be creeping around the lawn. Hearing the dog bark,"
2450 PRINT TAB(5) "the family can turn on all their lights. The intruders probably think"
2460 PRINT TAB(5) "they are sleeping. A watchdog is worth a lot of money. It is loyal to
2470 PRINT TAB(5) "family."
2480 PRINT:PRINT:PRINT
2490 S1$ = "People who live in the country are more than twenty minutes from the nearest police station."
2500 S2$ = "People that live in the country are more than twenty minutes from the nearest police station:"
2510 S3$ = "People who/that live in the country are more than twenty minutes from the nearest police
station."
2520 GOSUB 4300

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2530 IF AGAIN$ = "NO" THEN 2600
2540 IF AGAIN$ = "YES" THEN 2550
2550 PRINT:PRINT:PRINT
2560 PRINT "YOUR FIRST ANSWER WAS >"
2570 PRINT AS
2580 GOTO 2390
2590 PRINT:PRINT:PRINT
2600 '***** EX.5 THIRD PAIR *****
2610 PRINT:PRINT
2620 PRINT:PRINT:PRINT
2630 PRINT TAB(8) "Many families in America must decide whether or not to buy a watchdog,"
2640 PRINT TAB(5) "which is something that may be crucial to survival. People who/that"
2650 PRINT TAB(5) "live in the country are more than twenty minutes from the nearest"
2660 PRINT TAB(5) "police station. A GOOD WATCHDOG CAN WARN THEM OF INTRUDERS. THE"
2670 PRINT TAB(5) "INTRUDERS MIGHT BE CREEPING AROUND THE LAWN. Hearing the dog bark,"
2680 PRINT TAB(5) "the family can turn on all their lights. The intruders probably think"
2690 PRINT TAB(5) "they are sleeping. A watchdog is worth a lot of money. It is loyal to
2700 PRINT TAB(5) "family.":PRINT :PRINT :PRINT
2710 S1$ = "A good watchdog can warn them of intruders who might be creeping around the lawn."
2720 S2$ = "A good watchdog can warn them of intruders that might be creeping around the lawn."
2730 S3$ = "A good watchdog can warn them of intruders who/that might be creeping around the
lawn."
2740 GOSUB 4300
2750 IF AGAIN$ = "NO" THEN 2810
2760 IF AGAIN$ = "YES" THEN 2770
2770 PRINT:PRINT:PRINT
2780 PRINT "YOUR FIRST ANSWER WAS >"
2790 PRINT AS
2800 GOTO 2620
2810 '***** EX.5 FOURTH PAIR *****
2820 PRINT:PRINT
2830 PRINT:PRINT:PRINT
2840 PRINT TAB(8) "Many families in America must decide whether or not to buy a watchdog,"
2850 PRINT TAB(5) "which is something that may be crucial to survival. People who/that"
2860 PRINT TAB(5) "live in the country are more than twenty minutes from the nearest"
2870 PRINT TAB(5) "police station. A good watchdog can warn them of intruders who/that"
2880 PRINT TAB(5) "might be creeping around the lawn. HEARING THE DOG BARK, THE FAMILY"
2890 PRINT TAB(5) "CAN TURN ON ALL THEIR LIGHTS. THE INTRUDERS PROBABLY THINK THEY ARE"
2900 PRINT TAB(5) "SLEEPING. A watchdog is worth a lot of money. It is loyal to its fami
2910 S1$ = "Hearing the dog bark, the family, whom the intruders probably think are sleeping, can turn
on all their lights."
2920 S2$ = (same)
2930 S3$ = "Hearing the dog bark, the family, whom the intruders probably think are sleeping, can
turn on all their lights."
2940 GOSUB 4300
2950 IF AGAIN$ = "NO" THEN 3010
2960 IF AGAIN$ = "YES" THEN 2970
2970 PRINT:PRINT:PRINT
2980 PRINT "YOUR FIRST ANSWER WAS >"
2990 PRINT AS
3000 GOTO 2820
3010 '***** EX.5 FINAL PAIR! *****
3020 PRINT:PRINT
3030 PRINT:PRINT:PRINT
3040 PRINT TAB(8) "Many families in America must decide whether or not to buy a watchdog,"
3050 PRINT TAB(5) "which is something that may be crucial to survival. People who/that"

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3060 PRINT TAB(5) "live in the country are more than twenty minutes from the nearest"
3070 PRINT TAB(5) "police station. A good watchdog can warn them of intruders who/that"
3080 PRINT TAB(5) "might be creeping around the lawn. Hearing the dog bark, the family."
3090 PRINT TAB(5) "whom the intruders probably think are sleeping, can turn on all their"
3100 PRINT TAB(5) "lights. A WATCHDOG IS WORTH A LOT OF MONEY. IT IS LOYAL TO ITS FAMILY
3110 S1$ = "A watchdog which is loyal to its family is worth a lot of money."
3120 S2$ = "A watchdog that is loyal to its family is worth a lot of money."
3130 S3$ = "A watchdog which/that is loyal to its family is worth a lot of money."
3140 GOSUB 4300
3150 IF AGAIN$ = "NO" THEN 3210
3160 IF AGAIN$ = "YES" THEN 3170
3170 PRINT:PRINT:PRINT
3180 PRINT "YOUR FIRST ANSWER WAS >"
3190 PRINT A$
3200 GOTO 3030
3210 '***** EX.5 REVISED PARAGRAPH *****
3220 PRINT:PRINT
3230 PRINT TAB(24) "ISN'T THIS A MUCH SMOOTHER PARAGRAPH?"
3240 PRINT
3250 PRINT TAB(39) "REVISED"
3260 PRINT TAB(8) "Many families in America must decide whether or not to buy a watchdog,"
3270 PRINT TAB(5) "which is something that may be crucial to survival. People who/that-
3280 PRINT TAB(5) "live in the country are more than twenty minutes from the nearest"
3290 PRINT TAB(5) "police station. A good watchdog can warn them of intruders who/that"
3300 PRINT TAB(5) "might be creeping around the lawn. Hearing the dog bark, the family,"
3310 PRINT TAB(5) "whom the intruders probably think are sleeping, can turn on all their"
3320 PRINT TAB(5) "lights. A watchdog which/that is loyal to its family is worth a lot"
3330 PRINT TAB(5) "of money."
3340 PRINT TAB(39) "ORIGINAL"
3350 PRINT TAB(8) "Many families in America must decide whether or not to buy a watchdog."
3360 PRINT TAB(5) "It is something that may be crucial to survival. People are"
3370 PRINT TAB(5) "more than twenty minutes from the nearest police station. They live"
3380 PRINT TAB(5) "in the country. A good watchdog can warn them of intruders. The intruc
3390 PRINT TAB(5) "might be creeping around the lawn. Hearing the dog bark, the family-
3400 PRINT TAB(5) "can turn on all their lights. The intruders probably think they are"
3410 PRINT TAB(5) "sleeping. A watchdog is worth a lot of money. It is loyal to its family"
3420 PRINT
3430 GOSUB 3550
3440 GOSUB 3790
3450 '*****SCREEN 22*****
3460 FOR X = 1 TO 10:PRINT :NEXT X
3470 PRINT TAB(10) "We'll be moving into our last exercise now. After you hit the space":I
3480 PRINT TAB(10) "bar, the screen will say, 'OK.'" Then press F2 to start the program."
3490 FOR X = 1 TO 8:PRINT :NEXT X
3500 GOSUB 3550
3510 LOAD"EX6.
3520 END
3530 '*****EX. 3, 4, and 5 SUBROUTINES*****
3540 '*****PRESS SPACE BAR TO CONTINUE GOSUB ROUTINE*****
3550 PRINT TAB(27) "PRESS SPACE BAR TO CONTINUE"
3560 RS = INKEY$:IF RS = "" THEN 3560

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3570 IF R$ = " " THEN 3590
3580 IF R$ <> " " THEN 3560
3590 CLS
3600 RETURN
3610 '*****EX.3 COUNTER SUBROUTINE*****
3620 FOR X = 1 TO 10:PRINT :NEXT X
3630 PRINT TAB(11) N$;" , you've answered ";C3;" out of ";T3;" possible for a score":PRINT
3640 PRINT TAB(11) "of ";C3/T3*100;"%. Let's move on to the next exercise.":PRINT
3650 LPRINT :LPRINT TAB(11) N$;" , you've answered ";C3;" out of ";T3;" possible for a score
3660 LPRINT TAB(11) "of ";C3/T3*100;"%. Let's move on to the next exercise.":LPRINT
3670 FOR X = 1 TO 8:PRINT :NEXT X
3680 GOSUB 3550
3690 RETURN
3700 '*****EX. 4 COUNTER SUBROUTINE*****
3710 FOR X = 1 TO 10:PRINT :NEXT X
3720 PRINT TAB(11) N$;" , you've answered ";C4;" out of ";T4;" possible for a score":PRINT
3730 PRINT TAB(11) "of ";C4/T4*100;"%. Let's move on to the next exercise."
3740 LPRINT :LPRINT TAB(11) N$;" , you've answered ";C4;" out of ";T4;" possible for a score
3750 LPRINT TAB(11) "of ";C4/T4*100;"%. Let's move on to the next exercise.":LPRINT
3760 FOR X = 1 TO 8:PRINT :NEXT X
3770 GOSUB 3550
3780 RETURN
3790 '*****EX. 5 COUNTER SUBROUTINE*****
3800 FOR X = 1 TO 10:PRINT :NEXT X
3810 PRINT TAB(11) N$;" , you've answered ";C5;" out of ";T5;" possible for a score":PRINT
3820 PRINT TAB(11) "of ";C5/T5*100;"%. Let's move on to the last exercise."
3830 LPRINT :LPRINT TAB(11) N$;" , you've answered ";C5;" out of ";T5;" possible for a score
3840 LPRINT TAB(11) "of ";C5/T5*100;"%. Let's move on to the next exercise.":LPRINT
3850 FOR X = 1 TO 8:PRINT :NEXT X
3860 GOSUB 3550
3870 RETURN
3880 '*****YES OR NO SUBROUTINE*****
3890 PRINT TAB(35) "PRESS Y OR N"
3900 R$ = INKEY$:IF R$ = " " THEN 3900
3910 IF R$ <> "Y" AND R$ <> "y" AND R$ <> "N" AND R$ <> "n" THEN 3900
3920 CLS
3930 RETURN
3940 '*****CHECK ANSWER SUBROUTINE FOR EX. 3-5*****
3950 '*****CORRECT ANSWER SUBROUTINE*****
3960 E = 1
3970 IF EX = 4 THEN 4000
3980 IF EX = 5 THEN 4010
3990 T3 = T3 + 1:C3 = C3 + 1:GOTO 4020
4000 T4 = T4 + 1:C4 = C4 + 1:GOTO 4020
4010 T5 = T5 + 1:C5 = C5 + 1
4020 FOR X = 1 TO 11:PRINT :NEXT X
4030 PRINT TAB(16) "THAT'S RIGHT, ";N$;".":FOR X = 1 TO 9:PRINT:NEXT X
4040 GOSUB 3550
4050 RETURN
4060 '*****INCORRECT -- FIRST TIME SUBROUTINE*****
4070 E = 2

```

Exercise 6

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10 *****Exercise 6*****
20 *****SCREEN 27*****
30 FOR X = 1 TO 9:PRINT :NEXT X
40 PRINT TAB(14) "Hello again. We've switched to Exercise 6. Type in the":PRINT
50 PRINT TAB(14) "name of your favorite movie star, and press RETURN.":PRINT
60 INPUT " ";N$
70 CLS
80 *****SCREEN 28*****
90 FOR X = 1 TO 8:PRINT :NEXT X
100 PRINT TAB(16) "Surprise! There is no Exercise 6, ";N$;".":PRINT
110 PRINT TAB(16) "I simply wanted to tell you that it's been fun working":PRINT
120 PRINT TAB(16) "with you, and I hope you'll use all that you have":PRINT
130 PRINT TAB(16) "learned about sentence-combining in your own writing.":PRINT
140 PRINT TAB(16) "Please turn me off without pressing any other keys."
150 END

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Exercise 6

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10 *****EXERCISE 6*****
20 *****SCREEN 23*****
30 FOR X = 1 TO 9:PRINT :NEXT X
40 PRINT TAB(20) "Hello again. We've switched to Exercise 5.":PRINT
50 PRINT TAB(20) "Type in your name again and press the RETURN key.":PRINT
60 INPUT " " ;N$
70 CLS
80 *****SCREEN 24*****
90 PRINT :PRINT :PRINT TAB(16) "Select a topic from the list below or choose one of your own. You will be typing a whole paragraph on the screen,":PRINT
100 PRINT TAB(16) "and the only requirement is that you must use at least three":PRINT
110 PRINT TAB(16) "WHO/WHO, WHICH, and THAT clauses.":PRINT:PRINT
120 PRINT TAB(16) "A Person I Admire":PRINT
130 PRINT TAB(16) "My Favorite Holiday":PRINT
140 PRINT TAB(16) "Why Dogs (Cats) Are Such Disgusting Creatures":PRINT
150 PRINT TAB(16) "A Frightening Experience":PRINT
160 PRINT TAB(16) "My Worst Fault":PRINT:PRINT
170 PRINT TAB(16) "My Worst Fault":PRINT:PRINT
180 GOSUB 1320
190 *****SCREEN 25*****
200 PRINT :PRINT
210 PRINT TAB(16) "Read the following directions very carefully!":PRINT
220 PRINT TAB(16) "1. At the beginning of each line, you must type a quotation":PRINT
230 PRINT TAB(19) "mark, or I will say 'REDO FROM START.'":PRINT
240 PRINT TAB(16) "2. Do NOT type beyond the asterisk (*) on the right":PRINT
250 PRINT TAB(19) "margin; stop at an appropriate place in each line and":PRINT
260 PRINT TAB(19) "hit the RETURN key.":PRINT
270 PRINT TAB(16) "3. You will have a maximum of 10 lines in which to":PRINT
280 PRINT TAB(19) "type your paragraph. If you finish before then,"
290 PRINT TAB(19) "simply hit the RETURN key until no more ?'s appear.":PRINT
300 PRINT TAB(16) "4. If you decide to make changes in your paragraph after":PRINT
310 PRINT TAB(19) "it's finished, you can edit it one line at a time. I"
320 PRINT TAB(19) "will give you instructions at that time.":PRINT
330 PRINT TAB(19) "Ready?":PRINT :PRINT
340 GOSUB 1320
350 CLS
360 OPEN "r" #1 "par" 800
370 FIELD#1 80 AS P1$, 80 AS P2$, 80 AS P3$, 80 AS P4$, 80 AS P5$, 80 AS P6$, 80 AS P7$, 80 AS P8$,
80 AS P9$, 80 AS P10$
380 PRINT "TYPE YOUR PARAGRAPH (DON'T FORGET EACH LINE'S QUOTATION MARK!)"
390 INPUT L1$
400 INPUT L2$
410 INPUT L3$
420 INPUT L4$
430 INPUT L5$
440 INPUT L6$
450 INPUT L7$
460 INPUT L8$
470 INPUT L9$
480 INPUT L10$
490 GOSUB 1040
500 N$ = 1

```

*"

```

510 GET#1, N#
520 LPRINT P1$;P2$;P3$;P4$;P5$;P6$;P7$;P8$;P9$;P10$
530 PRINT P1$;P2$;P3$;P4$;P5$;P6$;P7$;P8$;P9$;P10$
540 PRINT "REENTER THE PARAGRAPH MAKING CORRECTIONS ONE LINE AT A TIME
550 PRINT "ENTER THE LINE NUMBER TO BE CHANGED AND HIT THE RETURN KEY. "
560 PRINT "ENTER THE NUMBER 11 WHEN FINISHED. IF YOU ARE READY TO PRINT THE REVISED
570 INPUT "PARAGRAPH, ENTER THE NUMBER 12. ";LN
580 L1$ = P1$
590 L2$ = P2$
600 L3$ = P3$
610 L4$ = P4$
620 L5$ = P5$
630 L6$ = P6$
640 L7$ = P7$
650 L8$ = P8$
660 L9$ = P9$
670 L10$ = P10$
680 ON LN GOTO 690,720,750,780,810,840,870,900,930,960,1000,1170
690 INPUT L1$
700 GOSUB 1040
710 GOTO 550
720 INPUT L2$
730 GOSUB 1040
740 GOTO 550
750 INPUT L3$
760 GOSUB 1040
770 GOTO 550
780 INPUT L4$
790 GOSUB 1040
800 GOTO 550
810 INPUT L5$
820 GOSUB 1040
830 GOTO 550
840 INPUT L6$
850 GOSUB 1040
860 GOTO 550
870 INPUT L7$
880 GOSUB 1040
890 GOTO 550
900 INPUT L8$
910 GOSUB 1040
920 GOTO 550
930 INPUT L9$
940 GOSUB 1040
950 GOTO 550
960 INPUT L10$
970 GOSUB 1040
980 GOTO 550
990 GOSUB 1040
1000 INPUT "IF YOU WANT TO DISPLAY THE PARAGRAPH AGAIN, ENTER Y; IF NOT ENTER N. ";RS

```

```
1010 IF R$ = "Y" OR R$ = "y" THEN GOTO 530
1020 IF R$ <> "Y" AND R$ <> "y" AND R$ <> "N" AND R$ <> "n" THEN 1000
1030 GOTO 1170
1040 LSET P1$ = L1$
1050 LSET P2$ = L2$
1060 LSET P3$ = L3$
1070 LSET P4$ = L4$
1080 LSET P5$ = L5$
1090 LSET P6$ = L6$
1100 LSET P7$ = L7$
1110 LSET P8$ = L8$
1120 LSET P9$ = L9$
1130 LSET P10$ = L10$
1140 N% = 1
1150 PUT#1, N%
1160 RETURN
1170 GET#1, N%
1180 LPRINT P1$;P2$;P3$;P4$;P5$;P6$;P7$;P8$;P9$;P10$
1190 CLOSE
1200 CLS
1210 *****SCREEN 26*****
1220 FOR X = 1 TO 6:PRINT :NEXT X
1230 PRINT TAB(16) "WAIT FOR THE PRINTER TO STOP.":PRINT
1240 PRINT TAB(16) "PRESS THE PAPER ADVANCE UNTIL YOU CAN TEAR YOUR SHEET OFF.":PRINT
1250 PRINT TAB(16) "TURN OFF THE COMPUTER AND THE PRINTER.":PRINT
1260 PRINT TAB(16) "TAKE YOUR SHEET TO A WRITING LAB TUTOR TO CHECK.":PRINT
1270 PRINT TAB(16) "IT'S BEEN FUN WORKING WITH YOU, ";N$; ", AND I HOPE":PRINT
1280 PRINT TAB(16) "YOU'LL USE ALL YOU'VE LEARNED ABOUT SENTENCE-COMBINING":PRINT
1290 PRINT TAB(16) "IN YOUR OWN WRITING!"
1300 FOR X = 1 TO 6:PRINT :NEXT X
1310 END
1320 *****PRESS SPACE BAR TO CONTINUE SUBROUTINE*****
1330 PRINT TAB(27) "PRESS SPACE BAR TO CONTINUE"
1340 R$ = INKEY$
1350 IF R$ = " " THEN 1370
1360 IF R$ <> " " THEN 1340
1370 CLS
1380 RETURN
```

APPENDIX K

LOG OF PROGRAMMING EXPERIENCES

Jan. 6, 1984 (3 hrs)

I began writing my program and mapping out the different sections: introduction of unit, choppy vs unchoppy paragraphs, explanation of subordinate clauses and danger words, types of clauses (adjective, adverb, noun), explanation of when to use "who," "which," and "that," exercise on choosing the correct one, and exercise on typing in clauses. I relied on a variety of sources, as well as my roommate, Robie Lewis.

Jan. 7, 1984 (2 hrs)

I continued to work on the skeleton of the program, trying to come up with good examples in the explanation.

Jan. 8, 1984 (1 hr)

Robie and I sat down to discuss what I'd done so far on the program. She pointed out some of the unclear areas which needed examples and also tried to explain how complicated programming possible answers into the computer could be. We decided not to use the type of clauses section because it was irrelevant.

Jan. 12, 1984 (1 hr)

I began writing sentences for the first part of the exercises and copying everything over neatly so Robie and I could program it in tomorrow. I played with the wording a lot to make it as smooth and clear as possible.

Jan. 13, 1984 (3½ hrs)

Robie and I talked to Dr. Flott in Data Processing about using the Zenith computer. She did not seem to know a great deal about how to format the disk. I asked a lot of stupid questions about what formatting was and what the computer could do, which irritated Robie, because she is a computer. We went over to the Zenith room in the Liberal Arts Building and got Dr. McGaw to show us where the formatting disk was. He asked me questions about what I wanted on my disk, which I had no idea how to answer. He then did the formatting for us. Dr. McGaw was so used to the machine, he typed all the commands out of his head very rapidly. Again, I felt very stupid and wished I had chosen a more familiar thesis topic.

Dr. McGaw looked over Robie's shoulder for a long time, and after he left, Robie growled that he was a know-it-all, and she hoped he stayed away. She spent another twenty minutes trying to get the disk to give us ZBASIC, but it refused, so we had to call Dr. McGaw back anyway. He said he had not realized we were creating a program, so he transferred that program to my disk, too. Robie got defensive again about him taking over her instructor status. I just wished I knew what was going on.

It took us a long time just to program in the title screen with asterisks around it. Sometimes Robie tried something and the machine would not accept it, so she had to refer to the manual for the correct language. Being a perfectionist, I was frustrated that the listing was so full of edits, i.e., the numbers were not exact multiples of five because of all the insertions. Robie said it could be fixed later.

Since I wanted to do as much of the program as I could, I kept asking questions and gradually began to recognize patterns and repeated terminology like "Print," "Tab," and "Input." After a while I could even

second guess some of the logic. Robie did all of the programming while I dictated, though, because she is a faster typist. By the end of our session, the computer seemed a lot more conquerable.

Jan. 14, 1984 (30 mins)

I met with Faye Vowell, Director of the Writing Lab and my thesis advisor, to discuss both the Lab and my work so far. She did a lot of talking about establishing credibility with the program by doing more than just drill work and also marketing it, maybe even presenting it at conferences. I had no reference point, so I had no idea what my program was like compared to others, however.

Jan. 16, 1984 (2½ hrs)

Robie and I went back to the computer room to program more of my program onto the disk. She got tired of typing, so I took over for the last hour. Although I still had to ask questions, watching her had helped immensely since much of a program is repetition. I also wrote down some of the basic commands so I would not forget what they meant. It seemed a lot easier: just a matter of looking up the correct language in the manual. Not many people seem to use the Zenith, and the Sociology secretary did not seem to know anything about it. In fact, she was irritated the first time I asked her a question, as if she disliked the computer, but disliked being ignorant even more.

Jan. 17, 1984 (2 hrs)

Robie and I spent the evening trying to figure out how we could program in the exercises for Part 1 in the easiest fashion. We especially had a problem with how to grade punctuation, how to limit what the

computer had to analyze of the student's work, and how many sentences to generate overall. I had a hard time accepting all of the limitations Robie kept throwing at me, and she was irritated by my ignorance. There was so much neither of us knew about the computer and its capabilities that I was very sensitive to anything vaguely patronizing.

Jan. 17, 1984 (2 hrs)

I wrote out ten sentences for Exercise 1 and four possible answers for each. It took forever. Faye and I had another conference, and I showed her what I had done. She gave me a much clearer definition of the uses of "who," "which," and "that" from the American Heritage Dictionary, so I could create sentences with more direction. William Elkins, an instructor with an extensive grammatical background, stopped by my desk and explained the usage rules of the three words, too.

Faye also had some advice about Exercise 2 in which the student had to type the sentence, leaving him open to several errors. I would give him the correct danger word and punctuation, and perhaps I needed a more concrete explanation of punctuation earlier in the program. She suggested that if the student got one wrong, the computer could ask if he knew what he had done wrong, and also the student should be able to stop after getting ten correct. Another possibility was having the computer print the sentences so a tutor could go over them later.

Then we discussed having the student fix a paragraph with high-lighted sentences to be combined. He could either type the new sentence between the lines or on top of the original. I would have to type in all possible punctuation and danger word possibilities and also a linear paragraph correction system, much like the student would actually do on

paper. I could have the computer print this, too. Faye suggested a second paragraph with no hints after this one.

We discussed finding a control group from the composition classes and the fact that my testing would probably not be conclusive. Perhaps my thesis should focus on a brief overview of others' work in this area, my progress as a new computer programmer, problems and solutions, a general statement of results from the pre-test and post-test, and data from a professional test maker.

Jan. 19, 1984 (1 hr)

I spent the day generating sentences.

Jan. 21, 1984 (1 hr)

I continued to generate sentences. I also discovered that I had lost my floppy disk. Now I know to make a backup.

Jan. 26, 1984 (30 mins)

I continued to generate sentences and began revising the danger word definition section, based on the American Heritage Dictionary and other sources.

Jan. 30, 1984 (1 hr)

I continued to generate sentences.

Jan. 31, 1984 (2 hrs)

While I was inventing sentences, Mr. Elkins told me I should add "animals" and "concepts" to the usage rules of "which."

Feb. 2, 1984 (3 hrs)

I spent three hours at the bowling alley plotting a new way to discuss the computer analysis of student answers in Exercise 1. I discovered that there are only nine possible answers which can be used in combinations. It is rather fun to work these problems out logically.

Feb. 3, 1984 (5 hrs)

I finished the sentences for Exercise 2 and then went back and put them in random order.

Feb. 4, 1984 (30 mins)

I discussed what I had done so far with Robie, and she suggested a ditto with computer usage instructions for the students.

Feb. 5, 1984 (2½ hrs)

Robie bugged me today about procrastinating; it is too bad I cannot just do the programming myself on my own time. I finished the program and began putting it on screen layout chart paper.

Feb. 6, 1984 (6 hrs)

I finished all of the screens.

Feb. 7, 1984 (3 hrs)

Faye and I went through my screen sheets, and she made suggestions about picture clarity and wording. Then we discussed a time schedule and various other thesis formalities. I worked on the revisions.

Feb. 7, 1984 (4 hrs)

We came back later and put the first one-third of the program on the computer. Robie experimented a lot with subroutines and time commands,

and we revised constantly. Finally, we printed a copy on the backup disk. We had also printed a copy on paper to make revisions easier. Today we discovered that the F1 and F2 keys make commands easier, too: "list" and "run."

Feb. 8, 1984 (3 hrs)

We made revisions from last night and then Robie figured out all the subroutines for Exercise 1. I do not understand how she can remember all of those numbers.

Feb. 8, 1984 (5 hrs)

Robie and I returned and finished programming Exercise 1, with me reading commands as well as data. It was tedious.

Feb. 9, 1984 (2 hrs)

We programmed the subroutines for Exercise 2. Robie still needed to figure out the counters and logic order for allowing the student two tries.

Feb. 9, 1984 (5 hrs)

Robie figured out what she had been working on, and we printed copies of sections of Exercises 1 and 2, so I could refer to them when dictating. I even pointed out some errors.

Feb. 10, 1984 (4 hrs)

We finished Exercise 2, averaging about two minutes a sentence because Robie showed me how to simply change line numbers to duplicated sections.

Feb. 12, 1984 (5 hrs)

We finished half of Exercise 4 by the time Nancy Cramatte, a Physical Education graduate assistant with computer experience, tried to run the program. She said several directions were unclear. Also she was bored with the explanations on Exercise 1 if she had already gotten the right answer. Other comments were that there needed to be examples on the same screen as the explanations, rules were easily forgotten because using the ear is more practical, and lastly, the seconds between certain explanations were too short. I was extremely discouraged, because, after running the program one thousand times, I could not see these things.

Feb. 13, 1984 (4 hrs)

I made all the corrections Nancy suggested by myself.

Feb. 13, 1984 (3 hrs)

Mark Gibbons, my boyfriend, dictated twenty more questions for Exercise 1 while I typed. We ran out of bytes, and Robie switched to another file name.

Feb. 14, 1984 (1 hr)

I printed out Exercises 1 and 2. We have lost Exercises 3 and 4, because we overloaded the file.

Feb. 14, 1984 (5 hrs)

Robie tried to find our original file and could not. We programmed in the last ten sentences of Exercise 2 and also the counters. We were very paranoid about the disk eating parts.

Feb. 15, 1984 (4 hrs)

I met with Dr. David Hurt, a statistics expert, today, and he stressed keeping the data clean by using other graders for subjective parts. I also met with Dr. Lloyd Edwards from Data Processing, and he explained that Robie and I had used up too many bytes, but he could not understand why the computer would not give back the program. Luckily we still had one copy of what we had programmed in previously. I bought two more floppy disks. Dr. Edwards suggested combining lines whenever possible and shortening remarks to leave more space, since this would be a long program.

Feb. 16, 1984 (3 hrs)

I talked to Dr. Edwards about the computer not saving the corrections I put in, and he explained that I was not out of the editing mode. Also, he showed me how to copy disks. I went back and redid my corrections.

Feb. 16, 1984 (4 hrs)

We typed in the rest of Exercise 1 and put Exercise 2 on a separate file just to be sure we did not run out of room.

Feb. 17, 1984 (1 hr)

I printed Exercises 1 and 2 for Robie.

Feb. 17, 1984 (4 hrs)

I devised a new subroutine for the first two exercises and even made corrections. Robie said my only mistake was leaving out a Return.

Feb. 18, 1984 (2 hrs)

Mark dictated while I typed in more corrections to shorten remarks and reverse screens. Robie said she did not have time to help me with Exercises 3 and 4 tomorrow morning, and I did not understand her directions. I hate being dependent on other people.

Feb. 19, 1984 (6 hrs)

We inserted Exercises 3, 4, and 5 on separate files.

Feb. 20, 1984 (4 hrs)

I checked the counters today, neatened the screens' Gosubs and other commands, and made several corrections alone.

Feb. 20, 1984 (4 hrs)

We finished neatenning the listing and Robie showed me how to put in some other counters not yet in the program. We changed two screens into subroutines and inserted exit commands from the exercises.

Feb. 21, 1984 (3 hrs)

I typed in more corrections and the Computer Usage sheet.

Feb. 21, 1984 (3 hrs)

Robie corrected a loop error for me, and we inserted a Beep for a wrong answer; also, we deleted some of the excess counters, so that we have changed so much from the original format.

Feb. 21, 1984 (1 hr)

Mark ran through the program, and said it was fine.

Feb. 22, 1984 (5 hrs)

I ran through it one more time and changed a few confusing sentences and then printed it. Dr. Edwards said he would try to create an exercise in which the student could write his own paragraph on the Wordstar program. Faye ran through the first exercise and made several wording suggestions, and also said I might have defined "which" incorrectly. I gave disks to Dr. John Somer, Mr. Elkins, and Dr. Mel Storm, also, and I gave the pre-test to the Writing Lab tutors to see if the two paragraphs were uniform, and also to see what kinds of errors occurred.

Feb. 23, 1984 (1 hr)

I ran off Exercise 2 again with corrections. On the pre-test, I discovered that the tutors had reworded sections, which I had not wanted them to do, so I modified the directions. Dr. Somer ran the program, and he was hindered by several syntax errors.

Feb. 24, 1984 (3 hrs)

I called Dr. Hill in the business department today, because Robie was out of town, and he explained that in a subroutine, one cannot stack Gosub's on top of each other and expect the Return to work. That was why the program would not run properly when Dr. Somer did it. I ran off the pre-tests.

Feb. 25, 1984 (3 hrs)

I changed the rules subroutine to one large one by myself, and it worked. I ran off Exercises 1 and 3.

Feb. 27, 1984 (1 hr)

Jane Wolken, one of the Writing Lab tutors ran through the program so I could time the approximate slot I should leave for students.

Feb. 28, 1984 (1 hr)

Nancy Vieta, another tutor, ran through the program for me and said she liked it. The Sociology secretary is very difficult to deal with because she is so possessive of the Zenith. She made it difficult to check out the machine for the time I need to run students through the program.

Feb. 29, 1984 (2 hrs)

Faye and I talked to Dr. Virginia Moxley about reserving the computer, and after much diplomacy and tongue-biting, we got it. Kevin Hinshaw, another tutor who began the program, but did not finish it, talked to me about it today. He said that it had taken him two hours because he could not type.

March 1, 1984 (1 hr)

Dr. Edwards finished the paragraph exercise and explained it to me.

March 2, 1984 (1 hr)

I added my own directions to Exercise 5.

March 7, 1984 (30 mins)

I talked to Mr. Elkins today, and he pointed out that I had mixed up semantics, case, and punctuation rules, and that each of those needed to be dealt with separately in Exercise 1. He gave me three textbooks

to look at. I got in touch with most of my subjects for the computer, since I had all of the pre-tests back.

March 8, 1984 (4 hrs)

I completely revised the program with Mr. Elkin's suggestions in mind, called the remainder of the computer students, and sent notes to the rest about the mini-course.

March 9, 1984 (5 hrs)

I continued to type in changes, and gave Faye one disk.

March 20, 1984 (3 hrs)

Because the first two students took over two hours to run through the program, Faye and I talked, and I decided to drop the paragraph creation exercise, and make Exercise 2 just ten sentences long. I made all of these revisions by myself, and I felt fairly confident of my ability to deal with it without Robie. Several students did not show up because of the snowstorm, which was lucky, because it gave me time to make final revisions.

April 18, 1984 (2 hrs)

I watched an international student run through my program, and Suzanne Achleitner, an ESL teacher here, asked if I could make modifications so that her students could use it. She pointed out that some of the terminology would not work because of difficult words ("irrelevant information") and informal language ("danger word"). Also, she said there was not enough practice in combining sentences without clues.

April 20, 1984 (5 hrs)

I added an extra exercise on combining without clues and inserted all of Suzy's revisions on my master disk.

APPENDIX L

STATISTICAL DATA

CAI Ex. 1 (# attempts before answering 10 correctly)

1. Sex

DF	I-Stat	Means
28	0.121	Females = 11.600 Males = 11.533

(DF = degrees of freedom used to locate critical values on table)

2. Class Level

DF	F-Ratio	Means	Scheffe																
2/27	1.7486	EN078 = 12.20 EN107 = 11.50 EN108 = 11.00	<table border="1"> <thead> <tr> <th></th> <th>EN078</th> <th>EN107</th> <th>EN108</th> </tr> </thead> <tbody> <tr> <th>EN078</th> <td>0.00</td> <td>0.59</td> <td>1.73</td> </tr> <tr> <th>EN107</th> <td>0.59</td> <td>0.00</td> <td>0.30</td> </tr> <tr> <th>EN108</th> <td>1.73</td> <td>0.30</td> <td>0.00</td> </tr> </tbody> </table>		EN078	EN107	EN108	EN078	0.00	0.59	1.73	EN107	0.59	0.00	0.30	EN108	1.73	0.30	0.00
	EN078	EN107	EN108																
EN078	0.00	0.59	1.73																
EN107	0.59	0.00	0.30																
EN108	1.73	0.30	0.00																

3. Sex vs Class Level

DF	F-Ratio	Means
2.24	Class Level = 1.6148 Sex = 0.0148 Interaction = 0.4591	EN078 = 12.20 EN107 = 11.50 EN108 = 11.00 Females = 11.60 Males = 11.53

Mini-Course Ex. 1 (20 possible)

1. Sex

DF	I-Stat	Means
26	2.564*	Females = 18.558 Males = 16.867

*significant at .05 level

2. Class Level

DF	F-Ratio	Means	Scheffe																
2/25	1.3065	EN078 = 16.75 EN107 = 17.90 EN108 = 18.10	<table border="1"> <thead> <tr> <th></th> <th>EN078</th> <th>EN107</th> <th>EN108</th> </tr> </thead> <tbody> <tr> <th>EN078</th> <td>0.00</td> <td>0.84</td> <td>1.16</td> </tr> <tr> <th>EN107</th> <td>0.84</td> <td>0.00</td> <td>0.03</td> </tr> <tr> <th>EN108</th> <td>1.16</td> <td>0.03</td> <td>0.00</td> </tr> </tbody> </table>		EN078	EN107	EN108	EN078	0.00	0.84	1.16	EN107	0.84	0.00	0.03	EN108	1.16	0.03	0.00
	EN078	EN107	EN108																
EN078	0.00	0.84	1.16																
EN107	0.84	0.00	0.03																
EN108	1.16	0.03	0.00																

3. Sex vs Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	**significant at .01 level
2/22	Class Level = 1.5520	EN078 = 16.75	
	Sex = 6.6198**	EN107 = 17.90	
	Interaction = 0.5388	EN108 = 18.10	
		Females = 18.54	
		Males = 16.87	

Ex. 2 (10 possible)

1. Sex

<u>DF</u>	<u>T-Stat</u>	<u>Means</u>
56	1.703	Females = 8.357
		Males = 7.533

2. Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Scheffe</u>	**significant at .01 level
2/55	5.1444**	EN078 = 6.83		
		EN107 = 8.45	EN078	EN078 EN107 EN108
		EN108 = 8.40	EN107	0.00 4.05 3.80
			EN108	4.05 0.00 0.00
				5.80 0.00 0.00

3. Type of Instruction

<u>DF</u>	<u>T-Stat</u>	<u>Means</u>
56	-1.703	CAI = 7.533
		Mini-Course = 8.357

4. Sex vs Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	**significant at .01 level
2/52	Class Level = 5.3917**	EN078 = 6.83	
	Sex = 3.3675*	EN107 = 8.45	**significant at .05 level
	Interaction = 1.1385	EN108 = 8.40	
		Females = 8.36	
		Males = 7.53	

5. Sex vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>
1/54	Type of Inst. = 2.9611	CAI = 7.53
	Sex = 2.9611	Mini-Course = 8.36
	Interaction = 0.2487	Females = 8.36
		Males = 7.53

6. Class Level vs Type of Instruction

*significant
at .05 level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>
1/52	Type of Inst. = 3.5370	CAI = 7.53
	Class Level = 5.6631*	Mini-Course = 8.36
	Interaction = 2.5048	EN078 = 6.83
		EN107 = 8.45
		EN108 = 8.40

Ex. 3 (3 possible)

1. Sex

<u>DF</u>	<u>T-Stat</u>	<u>Means</u>
56	0.476	Females = 2.250
		Males = 2.133

2. Class Level

**significant
at .01 level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Scheffe</u>	<u>EN078</u>	<u>EN107</u>	<u>EN108</u>
2/55	6.4582**	EN078 = 1.72				
		EN107 = 2.10	EN078	0.00	0.94	6.29
		EN108 = 2.70	EN107	0.94	0.00	2.50
			EN108	6.29	2.50	0.00

3. Type of Instruction

<u>DF</u>	<u>T-Stat</u>	<u>Means</u>
56	-1.047	CAI = 2.067
		Mini-Course = 2.321

4. Sex vs Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>**significant at .01 level</u>
2/52	Class Level = 6.7418**	EN078 = 1.72	
	Sex = 0.2856	EN107 = 2.10	
	Interaction = 2.5649	EN108 = 2.70	
		Females = 2.25	
		Males = 2.13	

5. Sex vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>
1/54	Type of Inst. = 1.0686	CAI = 2.07
	Sex = 0.2240	Mini-Course = 2.32
	Interaction = 0.3175	Females = 2.25
		Males = 2.13

6. Class Level vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>		<u>Means</u>		*significant at .05 level
1/52	Type of Inst. = 0.3255		CAI	= 2.07	
	Class Level = 6.5590*		Mini-Course	= 2.32	
	Interaction = 1.2664		EN078	= 1.72	
			EN107	= 2.10	
			EN108	= 2.70	

Ex. 4 (5 possible)

1. Sex

<u>DF</u>	<u>T-Stat</u>	<u>Means</u>
56	-0.170	Females = 2.214
		Males = 2.267

2. Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Scheffe</u>		**significant at .01 level	
2/55	7.4720**	EN078 = 1.50		EN078	EN107	EN108
		EN107 = 2.35	EN078	0.00	3.12	7.31
		EN108 = 2.80	EN107	3.12	0.00	0.92
			EN108	7.31	0.92	0.00

3. Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>		*significant at .05 level
56	-2.418*	CAI = 1.900		
		Mini-Course = 2.607		

4. Sex vs Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	**significant at .01 level
2/52	Class Level = 7.3417**	EN078 = 1.50	
	Sex = 0.0357	EN107 = 2.35	
	Interaction = 1.0025	EN108 = 2.80	
		Females = 2.21	
		Males = 2.27	

5. Sex vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	*significant at .05 level
1/54	Type of Inst. = 5.8072	CAI = 1.90	
	Sex = 0.0319	Mini-Course = 2.61	
	Interaction = 1.5998	Females = 2.21	
		Males = 2.27	

6. Class Level vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	*significant at .05 level
1/52	Type of Inst. = 7.0031*	CAI = 1.90	*signifi- cant at .01 level
	Class Level = 7.9151**	Mini-Course = 2.61	
	Interaction = -0.3709	EN078 = 1.50	
		EN107 = 2.35	
		EN108 = 2.80	

Pre-Test (5 possible)

1. Sex

<u>DF</u>	<u>T-Stat</u>	<u>Means</u>
84	-0.057	Females = 2.122
		Males = 2.133

2. Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Scheffe</u>
2/85	0.8561	EN078 = 2.08	EN078 EN107 EN108
		EN107 = 2.00	EN078 0.00 0.05 0.41
		EN108 = 2.30	EN107 0.05 0.00 0.80
			EN108 0.41 0.80 0.00

3. Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Scheffe</u>
2/83	0.4086	CAI = 2.03	CAI MC CONT
		Mini-Course = 2.11	CAI 0.00 0.05 0.40
		Control = 2.25	MC 0.05 0.00 0.17
			CONT 0.40 0.17 0.00

4. Sex vs Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>
2/80	Class Level = 0.8817	EN078 = 2.08
	Sex = 0.0036	EN107 = 2.00
	Interaction = 2.7386	EN108 = 2.30
		Females = 2.12
		Males = 2.13

5. Sex vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>
2/80	Type of Inst. = 0.3973	CAI = 2.03
	Sex = 0.0033	Mini-Course = 2.11
	Interaction	Control = 2.25
		Females = 2.12
		Males = 2.13

6. Class Level vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>
2/77	Type of Inst. = 0.4422	CAI = 2.03
	Class Level = 0.9167	Mini-Course = 2.11
	Interaction = 2.7470	Control = 2.25
		EN078 = 2.08
		EN107 = 2.00
		EN108 = 2.30

Post-Test (5 possible)

1. Sex

<u>DF</u>	<u>T-Stat</u>	<u>Means</u>
56	0.347	Females = 3.429
		Males = 3.300

2. Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Scheffe</u>
2/55	0.1038	EN078 = 3.39	EN078 EN107 EN108
		EN107 = 3.25	EN078 0.00 0.05 0.01
		EN108 = 3.45	EN107 0.05 0.00 0.10
			EN108 0.01 0.10 0.00

3. Type of Instruction

<u>DF</u>	<u>T-Stat</u>	<u>Means</u>
56	-0.347	CAI = 3.300
		Mini-Course = 3.429

4. Sex vs Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Means</u>	Significant at .05 level		
2/52	Class Level = 0.1077		EN078 = 3.39	CAI	HC	CONI
	Sex = 0.1232		EN107 = 3.25	0.00	1.03	1.33
	Interaction = 2.4857		EN108 = 3.45	1.03	0.00	4.55
			Females = 3.43		1.55	0.00
			Males = 3.30			

5. Sex vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Means</u>
1/54	Type of Inst. = 0.1173		CAI = 3.39
	Sex = 0.1173		Mini-Courst = 3.43
	Interaction = 0.3136		Females = 3.43
			Males = 3.30

6. Class Level vs Type of Instruction

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Means</u>
1/51	Type of Inst. = 0.3979		CAI = 3.30
	Class Level = 0.5107		Mini-Course = 3.56
	Interaction = 1.3366		EN078 = 3.39
			EN107 = 3.25
			EN108 = 3.65

Post-Post Test (5 possible)

1. Sex

<u>DF</u>	<u>I-Stat</u>	<u>Means</u>
84	1.676	Females = 3.512
		Males = 3.000

2. Class Level

<u>DF</u>	<u>F-Ratio</u>	<u>Means</u>	<u>Scheffe</u>			
2/83	0.2123	EN078 = 3.12	EN078	EN107	EN108	
		EN107 = 3.23	EN078	0.00	0.05	0.21
		EN108 = 3.37	EN107	0.05	0.00	0.06
			EN108	0.21	0.06	0.00

3. Type of Instruction

DF	F-Ratio	Means	Scheffe	*significant at .05 level		
2/83	4.5513*	CAI = 3.27		CAI	MC	CONT
		Mini-Course = 3.79	CAI	0.00	1.03	1.33
		Control = 2.68	MC	1.03	0.00	4.55
			CONT	1.33	4.55	0.00

4. Sex vs Class Level

DF	F-Ratio	Means
2/80	Class Level = 0.4424	EN078 = 3.12
	Sex = 2.7116	EN107 = 3.23
	Interaction = 0.3157	EN108 = 3.37
		Females = 3.51
		Males = 3.00

5. Sex vs Type of Instruction

DF	F-Ratio	Means	*significant at .05 level
2/80	Type of Inst. = 4.6748*	CAI = 3.27	
	Sex = 3.0622	Mini-Course = 3.79	
	Interaction = 1.0946	Control = 2.68	
		Females = 3.51	
		Males = 3.00	

6. Class Level vs Type of Instruction

DF	F-Ratio	Means	*significant at .05 level
2/77	Type of Inst. = 4.3072*	CAI = 3.27	
	Class Level = 0.2218	Mini-Course = 3.79	
	Interaction = 0.2761	Control = 2.68	
		EN078 = 3.12	
		EN107 = 3.23	
		EN108 = 3.37	

Time vs Typing Experience (minutes)

DF	Means	Time	Typing
None	Time = 78.07	Time	0.2271
	Typing = 1.33	Typing	1.0000

Exercise 4

```

110 '*****EXERCISE 4*****
120 '*****SCREEN 20*****
130 EX = 4
140 B = 1
150 PRINT
160 PRINT TAB(16) "In Exercise 4, before trying to combine sentences in a":PRINT
170 PRINT TAB(16) "paragraph WITHOUT clues, let's practice with sentences first.":PRIN
180 PRINT TAB(16) "Follow the same directions as before: turn the SECOND":PRINT
190 PRINT TAB(16) "sentence into a clause and put it immediately after the":PRINT
200 PRINT TAB(16) "word/idea which it describes in the first sentence. Remember":PRIN
210 PRINT TAB(16) "that more than one danger word (WHO/WHOM, WHICH, or THAT)":PRINT
220 PRINT TAB(16) "might be correct, and that you will be setting off the clause":PRINT
230 PRINT TAB(16) "with commas if it contains unnecessary information. Don't":PRINT
240 PRINT TAB(16) "forget your beginning quotation mark.":PRINT
250 GOSUB 3550
260 '*****EX. 4 QUESTION 1*****
270 FOR X = 1 TO 5: PRINT :NEXT X
280 FOR X = 1 TO 4:PRINT :NEXT X
290 PRINT TAB(16) "1. Sarah lives in New York City.":PRINT
300 PRINT TAB(19) "Sarah hates small towns.":PRINT:PRINT
310 S1$ = "Sarah, who hates small towns, lives in New York City."
320 S2$ = "Sarah, who hates small towns, lives in New York City."
330 S3$ = "Sarah, who hates small towns, lives in New York City."
340 GOSUB 4300
350 IF AGAIN$ = "NO" THEN 1410
360 IF AGAIN$ = "YES" THEN 1370
370 FOR X = 1 TO 5: PRINT :NEXT X
380 PRINT "YOUR FIRST ANSWER WAS >"
390 PRINT A$
400 GOTO 1280
410 '*****EX. 4 QUESTION 2*****
420 FOR X = 1 TO 5:PRINT :NEXT X
430 FOR X = 1 TO 4:PRINT :NEXT X
440 PRINT TAB(16) "2. The company is hiring men.":PRINT
450 PRINT TAB(19) "The boss recommends the men.":PRINT:PRINT
460 S1$ = "The company is hiring men whom the boss recommends."
470 S2$ = "The company is hiring men whom the boss recommends."
480 S3$ = "The company is hiring men whom the boss recommends."
490 GOSUB 4300
500 IF AGAIN$ = "NO" THEN 1560
510 IF AGAIN$ = "YES" THEN 1520
520 FOR X = 1 TO 5:PRINT :NEXT X
530 PRINT "YOUR FIRST ANSWER WAS >"
540 PRINT A$
550 GOTO 1430
560 '*****EX. 4 QUESTION 3*****
570 FOR X = 1 TO 5:PRINT :NEXT X
580 FOR X = 1 TO 4:PRINT :NEXT X
590 PRINT TAB(16) "3. I bought a new pair of shoes.":PRINT
600 PRINT TAB(19) "They squeaked.":PRINT:PRINT

```



```
1610 S1$ = "I bought a new pair of shoes that squeaked."  
1620 S2$ = "I bought a new pair of shoes which squeaked."  
1630 S3$ = "I bought a new pair of shoes which/that squeaked."  
1640 GOSUB 4300  
1650 IF AGAIN$ = "NO" THEN 1710  
1660 IF AGAIN$ = "YES" THEN 1670  
1670 FOR X = 1 TO 5:PRINT :NEXT X  
1680 PRINT "YOUR FIRST ANSWER WAS >"  
1690 PRINT A$  
1700 GOTO 1580  
1710 '*****EX.4 QUESTION 4*****  
1720 FOR X = 1 TO 5:PRINT :NEXT X  
1730 FOR X = 1 TO 4:PRINT :NEXT X  
1740 PRINT TAB(16) "4. Mrs. Burke took her class to the zoo.":PRINT  
1750 PRINT TAB(19) "It was an exciting trip.":PRINT :PRINT  
1760 S1$ = "Mrs. Burke took her class to the zoo, which was an exciting trip."  
1770 S2$ = "Mrs. Burke took her class to the zoo, which was an exciting trip."  
1780 S3$ = "Mrs. Burke took her class to the zoo, which was an exciting trip."  
1790 GOSUB 4300  
1800 IF AGAIN$ = "NO" THEN 1860  
1810 FOR X = 1 TO 5:PRINT :NEXT X  
1820 IF AGAIN$ = "YES" THEN 1830  
1830 PRINT "YOUR FIRST ANSWER WAS >"  
1840 PRINT A$  
1850 GOTO 1730  
1860 '*****EX.4 QUESTION 5*****  
1870 FOR X = 1 TO 5:PRINT :NEXT X  
1880 FOR X = 1 TO 4:PRINT :NEXT X  
1890 PRINT TAB(16) "5. Alice will not be here.":PRINT  
1900 PRINT TAB(19) "We left her with a babysitter.":PRINT :PRINT  
1910 S1$ = "Alice, whom we left with a babysitter, will not be here."  
1920 S2$ = "Alice, whom we left with a babysitter, will not be here."  
1930 S3$ = "Alice, whom we left with a babysitter, will not be here."  
1940 GOSUB 4300  
1950 IF AGAIN$ = "NO" THEN 2010  
1960 IF AGAIN$ = "YES" THEN 1970  
1970 FOR X = 1 TO 5:PRINT :NEXT X  
1980 PRINT "YOUR FIRST ANSWER WAS >"  
1990 PRINT A$  
2000 GOTO 1880  
2010 GOSUB 3700
```

APPENDIX N

ETHNOGRAPHY SURVEY

#1. What kind of experience have you had with computers?

None 3

Played video games 18

Taken a programming course 9

Used a computer for word processing 9

Used for computer assisted instruc. 12

#2. Have you had a typing course?

Yes 21

No 6

#3. Do you consider yourself a good typist?

Yes 14

No 13

#4. Did you enjoy using the computer to learn? Why or why not?

1. yes, it is something new to learn ever to learn on
2. yes, it's more enjoyable
3. Its a new way of learning, which makes it more interesting.
4. yes, because it was easier to learn by my own pace
5. yes, the directions are stable and concrete. That way directions do not become jumbled from person to person
6. yes and no, at first it was fun, but I soon got tired of it, and the little beep when I made an error was very irritating to me.
7. yes, it made it fun and made it easier to follow than a piece of paper. It kept your interest, it didn't get boring.
8. yes, but you couldn't interact with the teacher.
9. yes, it was easier to correct mistakes. It made the work easier.
10. I could move at my own pace. Did not have anyone looking over my shoulder. yes.
11. yes, because I feel I could learn more on the computer and I want to learn how to use the computers.
12. yes and no, it was interesting but there were some mistakes I made only because of the way the program was designed.
13. yes, cause if you make a mistake you can omit it without having to erase or scratch out.
14. yes
15. yes, it makes learning more interesting
16. yes. I could go at my own rate. Review what I knew, but at the same time study what I didn't know. The computer seemed funner to learn from than a lecture from a teacher
17. yes, I'm a computer major.
18. yes, I can go at my own speed.
19. yes, I do enjoy learning from a computer because I'm a slow learner. But the computer can't take the place of a teacher
20. yes, change of pace, while you work at your own pace.

21. yes, because it's easier and not as time consuming
22. yes, I enjoyed using the computer to learn because if the answer was wrong, I knew right away whenever I was right or wrong.
23. yes, pressure from peers is minimum, allows for individual pace of study.
24. yes because its different
25. yes, because it comes on quickly and lets you know you've made a mistake
26. I don't know
27. yes, it is an active process.

#5. Would you like to use it in classes? In what ways?

1. yes - as instruction in some areas and probably for testing
2. Yes, but you would have to teach the students to understand so they would be able to use it correctly. You could type your essays and not worry about making type errors.
3. Yes, for everything possible.
4. Yes, maybe still have the lecture from the teacher but use a computer to quiz the class to see if they understood the lecture if not a program to help them.
5. Yes, because we can take as long as we want to on the terminals and go at our own speed.
6. Sometimes - it depends on what the class is. I think it's helpful in teaching grammar rules, math, or any subject that doesn't need a lot of class discussion.
7. Yes, to learn English
8. Yes, for typing papers, correcting errors in paper, and drawing information from other areas.
9. Yes, for English classes, math classes, etc.
10. As a supplement, I don't think it should take the place of a teacher but could help with advanced studies or extra exercises for additional information concerning a subject.
11. Yes, anything.
12. Yes, maybe, it'd save some time if you only knew how to use it correctly and how to type.
13. Yes, not everyday, but just for a change.
14. Yes, in writing English papers, adjusting homework, and the computer helping us to learn.
15. Yes, help in spelling and other things.
16. Yes, for help on areas you're struggling in
17. Yes, math classes and English courses.
18. Yes, as I stated before directions could be more easily given and from class to class they would stay the same.
19. Yes, I think so if it didn't beep. It would be good as a study aide.

20. Yes, like the way we used it for Sandy's research. To help learn in writing. I know it helped me in my writing, just by learning on the one subject of subordinate clauses.
21. No
22. I don't know. I know it would make work I had easier but I might start using it as a crutch, which would dull my skills in thinking.
23. Yes, I think in aid of aspects it would be more helpful than a teacher. In classes, math, and English.
24. Yes, I would like to use it in a math class. I don't know much about doing math on a computer but I would love to learn.