CHAPTER 4

A DESCRIPTION OF THE CALL LESSONS USED
IN THE THESIS EXPERIMENT

4.1 Brief Overview of the PILOT Authoring System

The software used in the thesis experiment was created
on an Apple II+ computer (48K, 2 disk drives) using Apple
PILOT, 1980 version. PILOT is a CAI lesson authoring
system which was developed specifically to enable subject
matter instructors to create interactive programming without
having to learn a more abstract programming language, yet
without having to resort to the aid of professional program-
mers. (See Apple, 1980, for a complete description of
PILOT, and Smith, 1982, for a critique.) Actually, the
programming required in working with PILOT is possibly
beyond the grasp of instructors lacking minimal familiarity
with computer programming; however, the present researcher,
an ESL instructor for eight years, with about two years'
experience with computers, was able to comprehend the
manuals which came with the system and develop the lessons
described in this chapter with no outside assistance
whatsoever.

PILOT has many features which lend themselves to CAI
lesson creation. These features include certain subroutines
crucial to CAI operation. For example, answer matching and
judging are implemented with simple commands in PILOT,
whereas these would require the design of complex subroutines

in a higher level programming language. Text display is also easily invoked in PILOT, and the PILOT text editor is versatile, allowing insertion, deletion, and replication of text and other elements in PILOT programs.

Besides text, other editors in the PILOT system provide for the creation of graphics, character sets, and sound effects. These editors are easy to use in producing respectable results. The lessons designed for this experiment, for example, used the graphics editor to draw an inebriate in bed, with thought balloons depicting whiskey bottles swirling overhead. There was also a chart stored as a graphic so as to be able to recall it expediently at appropriate moments in the program. PILOT makes graphics functions quite accessible to non-programming subject matter instructors; thus the chart and picture used for these lessons were each produced in less than an hour at the computer. The chart also took advantage of PILOT's ability to intermingle text with other graphic elements.

Several sound effects were used throughout the program. The most elaborate, which played the first four notes of Beethoven's Fifth Symphony, was a simple four line "program" copied from the Apple PILOT Editor's Manual. PILOT also allows "klicks", "sweeps", and "warbles", which the programmer can invoke by simply specifying octave, note, and duration. Sweeps were used at various places in the programs created for this experiment. Finally, warning beeps

were programmed into the lessons to warn the students when they had failed to follow instructions. The point here again is that the effects possible were numerous and varied, yet easy for non-programmers to implement.

A special character set was also designed for these CALL lessons. The special characters were used to enhance display of the lesson title page, and also to greet the students with an attractively written "Hello" and to send them off with an equally pleasing "Goodbye". The letters in the character set were four times the size of normal screen display. The character set was found to be easy to use (designing the characters was more time consuming than entering the designs into the computer). Calling the character set from a PILOT program was also a trivial matter.

A final feature made possible by PILOT was the ability to use game paddles as a means by which students could inter-face with the computer. Game paddles are devices which allow manipulation of elements on the screen. The TG game paddles used with these CALL lessons were paired hand-held boxes, each with a knob on top and a button at the side. PILOT provided a single command (ap:) which would cause the computer (1) to make cross-hairs appear on the screen, (2) to wait for the user to position the cross-hairs by turning the knobs on the game paddles, and (3) to take some action according to the position of the cross-hairs when the user signaled that position by pressing one of the buttons.

PILOT considered the screen to be a 511 by 559 unit grid and returned the coordinate values where the cross-hairs met whenever a button on either game paddle was pressed. The programmer had only to specify what action should be taken by the computer for all ranges of coordinate values possible in order to use this feature in his CALL programming.

4.2 A Description of the Two Lessons

Two lessons were created for the purpose of the thesis experiment. Both were basically the same, except that one allowed use of game paddles to let the students generate their own sentences. In the other, the computer formed sentences without the students having control over their generation, so that the students were passed through the lesson in linear fasion (see Section 4.2.6 below for a fuller description of how students generated sentences). The two lessons were designated Game Paddle Lesson (PDL) and Regular Lesson (REG).

Since the experimental question concerned the extent to which the elements of choice and control enhanced (or detracted from) learning, pains were taken to keep the two lessons as equal as possible, while at the same time granting users of the PDL lesson the choice of and control over what portion of the lesson they would go to next. Equality of the two lessons was maintained through use, whenever possible, of identical text and format.

PDL subjects were granted choice and control in two ways. First, they formed sentences from elements on a chart, effectively choosing which one of the 32 problems in the lesson they would work next. Second, they had the option (at certain junctures) of exiting the problem mode, and jumping ahead to the quiz, rule, and recapitulation sections of the lesson. Conversely, users of the REG lessons had no options at any point but to work the next task that had been programmed for them. It should be stressed that, although the lessons differed at those junctures where the PDL students were allowed options, the text and format for the two lessons were exactly the same for problems and instructions common to the two lessons. This was true also for the quiz, rule, and recapitulation sections at the end of each lesson.

4.2.1 Title Page

Both lessons began with the same title page, which remained on the screen until a student activated the lesson. The title page was worded as follows (a character set was used to enhance the lettering of the title):

```
┌─────────────────────────────────────────────┐
│                                             │
│           GERUNDS AND INFINITIVES           │
│                                             │
│                 Used with                   │
│                                             │
│    STOP - FORGET - REMEMBER - REGRET        │
│                                             │
│                                             │
│           Created by Vance Stevens          │
│                                             │
│                Spring, 1983                 │
│                                             │
│                                             │
│          Press the RETURN key now.          │
│                                             │
└─────────────────────────────────────────────┘
```

4.2.2 <u>Statement of Purpose</u>

Once a student pressed RETURN, he was greeted with
"Hello", again in lettering enhanced by the character set,
and then shown a statement of purpose. The first four notes
of Beethoven's Fifth Symphony were played on the Apple's
speaker before the student was asked to press RETURN to go
on. This page appeared as follows:

```
┌─────────────────────────────────────────────┐
│                                             │
│                   HELLO                     │
│                                             │
│                                             │
│              In this lesson,                │
│                                             │
│     you will learn something about using    │
│                                             │
│          GERUNDS (a verb plus '-ing')       │
│                                             │
│       and INFINITIVES ('to' plus a verb)    │
│                                             │
│          after four verbs in particular.    │
│                                             │
│                                             │
│             These four verbs are            │
│                                             │
│     STOP, REMEMBER, FORGET, AND REGRET      │
│                                             │
└─────────────────────────────────────────────┘
```

4.2.3 Instructions for Game Paddle Students Only

The PDL students then got an instruction page telling them there would be a chart, and that they would be able to move cross-hairs and press buttons to make sentences from this chart. The instructions were worded as follows:

```
                    INSTRUCTIONS

Welcome!  In a moment you will see a
chart.  Lines will appear on the chart.
You can move the lines with the round
KNOBS on your Control Paddles.

The Chart has three columns.  Make a
sentence by choosing the MAIN VERB from
the first column, and a GERUND or
INFINITIVE verb from one of the other
columns.

To choose, move the lines so that they
meet at your first choice, and press the
BUTTON on either paddle.  When the lines
return, you can choose again in the same
way.  Have fun!

            Press RETURN to continue.
```

It was understood that these instructions were not especially appropriate for ESL students, but they were included nonetheless for two reasons. One, it was felt that there should be some written instructions for the students which, in tandem with the explanation given them directly by the researcher, would facilitate their understanding of what to do. Two, it was felt that these were the minimum instructions that would have to be included in this lesson if it

were to be used by anyone without assistance or supplementary documentation.

4.2.4 Functional Setting for the Linguistic Context

At this point in both lessons, a picture of Max, the lesson's anti-hero, was drawn on the screen (the REG students having skipped the game paddle related instructions noted above). In the picture, Max was depicted as sprawled awkwardly in bed. Thought balloons filled with whiskey bottles showed that he was dreaming of last night's revelry. (The effectiveness of this drawing was verified when the author's four year old, on seeing it for the first time, said "There's Max," apparently making the connection from jokes he had overhead about Max's questionable behavior while the lesson was being created.) The text introducing Max appeared below the drawing, and read as follows:

```
Last night, there was a BIG PARTY!

     Max went to the party.

     He had a very good time.

He was one of the last guests to leave.


        (Press RETURN.)
```

Students were next invited to help Max to reconstruct what had transpired the evening before. The following text

replaced the preceding text on the screen, while the picture of Max stayed in the top portion of the screen.

> This morning, Max has a terrible headache.
>
> He doesn't remember much that happened at the party.
>
> Help Max remember what happened.
>
> When you see the chart, make sentences to help Max remember what happened at the party.
>
> Please press RETURN to continue.

4.2.5 Familiarization with Problem Section Protocol

Following this was a short routine familiarizing students with the way they would be prompted for answers when in the problem mode of their respective lessons. The routine, which was the same for both lessons, was also displayed under the picture of Max, and was worded as follows:

> In the exercises, you will be asked to answer questions by typing the first letter of the correct answer. Your choices will be given in parentheses, as in the example below.
>
> Do you understand? Yes or no? (y/n)

PILOT allowed the programmer to handle student input in a variety of ways. One of the programmer's options was to specify that program operation could continue as soon as the student had pressed any key on the keyboard. Thus, as soon as a student typed "y", the word "yes" was completed for him, and he received the message "Good. Let's go on then." If he typed "n", he was obviously just fooling around, so after the word "no" had been written out, the computer would display the message, "You seem to understand!" and the student would be passed on to the next step. If the student typed anything besides "y", or "n", he received the message, "Well, you should have typed either a 'y' for 'yes' or an 'n' for 'no'. Do you understand now? Yes or no? (y/n)?" Here, the program would await student input and then process "y", "n", or anything else the student entered in the way described above until the student understood the format he would be using in answering the problems in the lesson, and signalled this by typing either 'y' or 'n'.

4.2.6 Working from the Chart of Matrices and Gerund and Infinitive Complements

On passing this stage, the students were presented the chart with the matrix, gerund, and infinitive combinations they would be working with in the problems section to follow. Although the charts were the same for each lesson, each

group of students would be using the charts in different ways, and so the text surrounding the chart was different for each lesson. In fact, the REG students were given the chart solely for the purpose of keeping the lessons as equal as possible, with roughly equivalent graphics. These students, who would not be using the chart at all after this initial exposure, were told that the problems which would follow would be drawn from the chart. The PDL students, for whom the chart was about to become a functional part of the lesson, got further instructions about using the game paddles to make selections from the chart.

The chart for the REG students appears below. From this point, the REG students embarked on a 32 question exercise, gaining exposure to each of the possible sentences one by one.

Sentences may be formed by combining main verbs with gerunds and infinitives.

Main Verbs	Gerunds	Infinitives
He stopped	thanking the hostess	to thank the hostess
He remembered	talking with that pretty girl	to talk to that pretty girl
He forgot	introducing himself	to introduce himself
He regretted	drinking at 3 a.m.	to drink at 3 a.m.

In this lesson, we will look at all the sentences that can be formed from combining the verbs in the first column of this chart with the verbs in all the other columns.

Press RETURN to go on.

The chart for the PDL lesson differed from that in the REG lesson in that it was accompanied by instructions which told students how to use the game paddles to select elements from the chart. The exact text is given below.

```
            Use the game PADDLES to choose
             parts of sentences to combine.
          Then PRESS either BUTTON to select.
```

He stopped	thanking the hostess	to thank the hostess
He remembered	talking with that pretty girl	to talk to that pretty girl
He forgot	introducing himself	to introduce himself
He regretted	drinking at 3 a.m.	to drink at 3 a.m.

```
When you see the lines cross ---

Form a sentence by choosing FIRST from the column on
the left.

             To choose, MOVE the KNOBS.
          Then PRESS one of the RED BUTTONS.
```

Seconds after the chart and its accompanying messages were displayed, cross-hairs appeared on the screen. These cross-hairs were manipulated by rotating the black knobs on the TG game paddles attached to the computer. The paddles were virtually identical, with one knob controlling the horizontal cross-hair and the other the vertical. Thus, by rotating one or both knobs, the student could change the point at which the cross-hairs met. When the student pushed one of the red buttons protruding from either game paddle,

the computer registered the position at which these lines crossed.

Students were supposed to center the cross-hairs over one of the four possible matrix verbs ranged down the leftmost column. However, the lesson had to be programmed so that the student would receive appropriate feedback no matter where the cross-hairs were positioned on the screen when a button on a game paddle was pushed. Unless all possibilities were anticipated, there would be the risk of a student aborting the lesson unexpectedly. Apart from a correct positioning of the cross-hairs, it was also antici-pated that when a button was pushed, the cross-hairs could (1) be centered off the chart somewhere, or (2) be centered on the chart, but over one of the complement verbs in the middle or rightmost column.

In these last two cases, a message would replace the one that had previously existed just below the chart itself. In the first case, the student received this message, accompanied by a sound effect: "OOPS! You pushed the button before making the lines meet somewhere on the chart. Press RETURN to continue." In the second case, the student was displayed the following message, again accompanied by a sound effect:

```
┌─────────────────────────────────────────┐
│                                          │
│     Your first choice should be:         │
│                                          │
│     He stopped, He remembered,           │
│     He forgot, or He regretted.          │
│                                          │
│   Don't forget to PRESS a button!!!      │
│                                          │
│      Press RETURN to continue.           │
│                                          │
└─────────────────────────────────────────┘
```

Students receiving either of these messages were returned to the point in the lesson where the cross-hairs appeared and the computer stood ready to accept their first choice. Pressing a button before the cross-hairs were centered within one of the boxes containing a legal first choice, i.e. a matrix verb, resulted in the above loops being invoked ad infinitum.

When the student correctly centered the cross-hairs anywhere in the first column, the computer distinguished which box they were centered in, marked the student's choice on the screen with the word "ZAP!", and then prompted the student for the next choice. The prompt depended on the choice of matrix verb; for example, if the student had selected "He forgot", the computer would ask the student, "OK. What did he forget?" Almost simultaneously with this message, the cross-hairs would reappear and the computer would wait for the student to press a button on one of the game paddles.

Although the student was this time supposed to center the cross-hairs over one of the eight complement verbs before pressing a button, the program had to accommodate other possibilities. If the student centered the cross-hairs over a matrix verb in the first column or anywhere else on the screen off the chart, he received the message (with a sound effect), "Your choice at this point must be either from the MIDDLE or LAST column. Press RETURN to continue." The program would then resume normal operation; that is, it would await the student's legal second choice.

When the student centered the cross-hairs within any one of the boxes containing the eight gerund or infinitive complement verbs and then pressed a button, the program would invoke a routine which would enable it to use the coordinate values of that intersection to find a file stored on disk containing the programming for the problem associated with the student's choice. As this took anywhere from five to 20 seconds, the field below the chart itself was cleared, and the message appeared: "Patience please. I'm thinking." Then came the message, "The red light means I'm working" (in reference to the fact that the disk drive light would come on when the computer began to access the disk). These messages were meant to reassure students that something was happening within the computer.

Thus the students using the game paddle lesson were able to select elements from the chart and form sentences from them, using the game paddles to make their selections. Once a selection was made and PDL students had entered the problem mode, they got exactly the same treatment for that sentence as did the REG students. The only difference was that the PDL students could choose which sentences they wanted to work on, while the REG students worked the problems in a predetermined order. Another difference, in practice, was that students in the REG lesson typically worked all 32 items, while the PDL students often tried five or ten items before either deciding to work the quiz, rule, and recapitulation sections or being asked to terminate the lesson (because their time had run out; see Chapter 6 for the experimental procedure).

4.2.7 The Problem Section

Problems in the lessons were exactly the same for students in either group. Also, all of the 32 problems were presented in the same format. The format was (1) display of the sentence and paraphrase, (2) presentation of a question asking which action happened first (that of the matrix or that of the complement), and (3) processing of the student's response plus feedback. When incorrect responses were encountered, students were returned to the paraphrase. The only exit from any one problem was through a correct answer.

First, the sentence appeared on the screen, followed after 3 seconds by a paraphrase. The sentence and paraphrase appeared in the space below the chart for the PDL students and at the top of a blank screen for the REG students. Problems were numbered in the REG lesson but, for obvious reasons, not in the PDL lesson. The paraphrase either restated the problem sentence (e.g. "This means that . . . ") or provided some elaboration on the semantic import of the sentence. For example:

```
        Max regretted talking to that
                 pretty girl.

        Max was talking for a long time to
                 the pretty girl.

        Then her husband, the boxer,
                 came over.

        Max regretted talking to her then.

        Press RETURN to continue.
```

The sentence and its paraphrase remained on the screen until the student pressed RETURN. At this point in either lesson, REG or PDL, the screen was completely blanked out and the problem sentence reappeared at the top. Then the student was asked which happened first, the action in the matrix, or the action in the complement. Students were prompted to type the first letter of the verb which answered

that question, and the computer paused while waiting for a key press. For example, the problem above was continued as follows:

```
MAX REGRETTED TALKING TO THAT PRETTY
              GIRL.

      Now, which did he do first:

Regret?  Or talk to the girl?  (r/t)
```

Three contingencies were anticipated at this point:

(1) The answer would be neither correct nor incorrect; i.e., the student would press a key that did not have on it one of the two letters in the prompt. In this case, he was given more explicit instructions. These instructions were in the same format for each problem. The following is an example:

```
     Please type either an "r" for
          "regretted" . . .

      or a "t" for "talked".

HE REGRETTED TALKING TO THAT PRETTY
              GIRL.

Now, which did he do first, regret?
     or talk to her?  (r/t)
```

Operation of the program would then revert to the point at which the computer had paused while waiting for the student

to type the first letter of the verb whose action occurred first.

(2) A second contingency was that the answer would be incorrect; e.g., the student would type the letter beginning the verb whose action occurred last. In this event, the verb which the student had selected would automatically be spelled out from the letter the student had typed, followed by a brief message informing the student that he had made an incorrect choice. Then the student was told the correct answer, and program operation was branched back to the sentence and paraphrase. Thus the student could reread the paraphrase before reworking the problem. For example, if the student had said that Max had experienced regret before talking to the pretty girl, then the following message would appear:

> regretted? No . . . wrong that time.
>
> In fact, he was talking first.
>
> Press RETURN to continue.

(3) The answer would be correct; e.g., the student would type the letter at the beginning of the verb representing the action which occurred first. The remainder of that verb would be automatically printed out for the student, followed by a brief congratulatory message. Then, since

all students would have to exit the problem at this point
(some having already fallen into one of the other contin-
gencies given above), a final paraphrase was presented.
For example:

```
+------------------------------------------------+
|                                                |
|           talked to her!  Right!               |
|                                                |
|    He was talking to her, but when he saw      |
|          her big, strong husband . . .         |
|                                                |
|       . . . he regretted talking to her.       |
|                                                |
|    Maybe that was when Max began to forget      |
|                    things.                      |
|                                                |
+------------------------------------------------+
```

At this juncture, REG students went on to the next problem.
When they had done all 32 problems, they entered the quiz,
rule, and recapitulation sections described below. PDL
students, on the other hand, were given the option of going
to the quiz after each problem. PDL students were advised
of this option when, at the end of each problem, they
received the message:

```
+------------------------------------------+
|                                          |
|     "Type 'enough' if you want a         |
|     QUIZ now.  Then press Return.        |
|                                          |
|        <- Arrow key erases.              |
|                                          |
|     Otherwise, just press RETURN.        |
|                                          |
+------------------------------------------+
```

Typing RETURN would send the students back to the chart,
where they had the opportunity to form other sentences by

combining matrix and complement verbs. After working each problem, they would again reach the point where the computer asked if they wanted to type "enough" and work the quiz or press RETURN and work more problems from the chart.

4.2.8 The Quiz, Rule, and Recapitulation Sections

As has been pointed out, students in the REG group worked the 32 problems one after the other, at which time they entered the quiz mode. (This quiz was part of the CALL lesson, and is not to be confused with the 40 item post test given _after_ the computerized lessons described in this chapter had terminated.) PDL students, on the other hand, had the opportunity after each problem to exit the problem mode and enter the quiz, rule, and recapitulation segments which "completed" the lesson (that is, led to a "Goodbye" page). However, it would not have been desirable to let the PDL students exit the lesson before having worked (from the chart) a number of problems sufficient for them to understand the material. Therefore, the true purpose of the quiz was to prevent PDL students from being able to leave the lesson before they had demonstrated 80% proficiency on the items taught, which they did by correctly solving four out of the five problems on the quiz. Conversely, the quiz in the REG lesson merely helped with the recapitulation.

Once into the quiz, students using both lessons had exactly the same material: the quiz, an interactive rule

formulation segment, and a recapitulation. Missing two or more of the five items in the quiz caused the program, on completion of the quiz, to branch the student into some remedial work. Here, there was a difference in the two lessons in what that remedial work would be. If the PDL students missed more than one quiz item, they were returned to the chart for more practice, but the REG students simply worked the quiz again. No matter what the REG students did on the quiz the second time, they were passed to the rest of the lesson. Thus the REG students were precluded from being caught in a frustrating loop. Conversely, PDL students could possibly have been caught in a loop, since poor performance in the quiz returned them each time to the chart and problem section for more practice. However, it was not expected that the PDL students would need to work the quiz more than twice, especially as the quiz was the same each time.

The format for problems on the quiz was similar to that for problems students had previously encountered in the lesson, except that no paraphrases were given prior to students' responding to questions, and that students did not need to respond correctly in order to go on to the next problem. Students were presented with one of the five problem sentences and asked which occurred first, the action in the matrix or that in the complement. Again three

contingencies were anticipated: correct, incorrect, and neither correct nor incorrect answers. In the latter contingency, more explicit instructions were given. In the first two cases, the students were given explanatory sentences and then passed on to the next problem (or out of the quiz, or back into the quiz or chart). For example:

```
(3)  Max remembered hitting
        the boxer.

Now, what did he do first?
     Remember?  or hit
     the boxer?   (r/h)
```

Here the computer would pause and wait for the student to respond. If the student typed "r", he would read the following:

```
              remember?  No.

He remembered, but much
         later . . .

. . . after someone had poured
         water on him.

Now try the next one.

Press RETURN to go on.
```

If the student typed "h", he would receive the following message, after which program operation would resume with the next step:

```
hit the boxer.  That's right!

That's what Max did first.
Later, after someone poured cold
water on him, Max remembered
hitting the boxer.

Keep up the good work . . .

Press RETURN to go on.
```

Finally, if the student pressed any other key besides
"h" or "r", he would receive the following message, after
which program operation would resume from the point the
computer had paused to await the student's response:

```
Wait a minute.  That was neither an
"r" for "remember" nor an "h" for
"hit the boxer".
Your answer should be either an "r"
or an "h".

Once more now . . . If Max remembered
hitting the boxer, which did he do
first?  Remember, or hit the
boxer?  (r/h)
```

Once past the quiz, students had a final exercise in
which they were shown rules governing the grammar they had
been working with. In this exercise, they were asked to
judge whether the four rules given were true or false.
Feedback to student answers was either "Right!" or "No."
Only one problem was false, and in all cases, the correct

rule was rapidly displayed after the student's response.
Directions were printed at the top of the screen and held
in place while the text changed at each instance of student
input. The following is an example:

```
DIRECTIONS:  I'll give you a rule.

    If it's true, you type "t".

    If it's false, you type "f".

*****************************************

True or false?  If a verb like REGRET is
followed by an INFINITIVE (for example,
"I regret to tell you"), then regret
happens first, and the action in the
infinitive happens later.  (t/f)?
```

(When the student typed "t" or "f", the word was completed
for him, and his answer was judged either "Right!" or "No."
In either case, he was immediately given the rule.)

```
RULE:  When REGRET, FORGET, STOP,
   or REMEMBER are followed by
infinitives, the action in the
    infinitive happens LATER.

  Press RETURN to continue.
```

Following these rules, there were three pages of
recapitulation. These appeared as follows:

```
So, according to our RULES,

The gerund in this sentence shows
a REAL condition, or a situation
that has ALREADY taken place.

He forgot LEAVING the lights on.
(He ALREADY left the lights on.)
REAL situation:  the lights are on.

Now press RETURN.
```

And the next page:

```
And, according to our RULES,

The INFINITIVE in this sentence shows
an IMAGINARY condition, or a
situation that has NOT YET taken place.

He forgot TO LEAVE the lights on.
(He hasn't turned them on YET.)
IMAGINARY situation:  the lights are
not on.

Press RETURN.
```

And finally:

```
┌─────────────────────────────────────────────┐
│                                               │
│        By now, you have learned some special  │
│        things about GERUNDS and INFINITIVES   │
│               with the verbs:                 │
│                                               │
│        STOP, REMEMBER, FORGET, and REGRET.    │
│        ****  ********  ******     ******       │
│                                               │
│       I'm sure that you don't regret WORKING  │
│        this lesson, and that you will never   │
│           forget TO USE these verbs           │
│                   correctly.                  │
│                                               │
│         I have enjoyed WORKING with you       │
│          (since we have ALREADY worked        │
│                  together).                   │
│                                               │
│       I hope TO WORK with you again sometime  │
│                (in the future).               │
│                                               │
│          Press RETURN to say goodbye.         │
│                                               │
└─────────────────────────────────────────────┘
```

After this, the computer displayed "Goodbye" in enhanced characters, accompanied by an appropriate sound effect. The "Goodbye" page was programmed to stay on the screen for 30 seconds, at which time the initial title page returned, and the lesson was then ready for another student. Alternatively, a student could press RETURN before 30 seconds had passed, and begin working the lesson.