

This series features several educational computer programs designed to enhance the language arts curriculum. These programs allow teachers to modify the existing lessons and to closely monitor student results.

The Hartley LANGUAGE ARTS Series II requires the following hardware: a 48K Apple II, II+, II, or II, or Franklin ACE løøø, and one disk drive.

This Teacher's Guide is appropriate for many Hartley programs including:

> Adjectives
> Adverbs
> Antonyms/Synonyms
> Homonyms
> Nouns/Pronouns
> Roots/Affixes
> Who, What, Where, When, Why Verbs
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> Dimondale, MI 48821

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Test site schools available on request.
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This disk uses a high speed operating system, Diversi-DOS ${ }^{\text {T.M. }}$, which is licensed for use with this program only. To legally use Diversi-DOS, you may send $\$ 3 \emptyset . \emptyset \emptyset$ directly to DSR, Inc., 5848 Crampton Ct., Rockford, IL 6llll. You will receive a Diversi-DOS utility disk with documentation.

## ***

The upper/lower case alphabet used on this disk was developed by and is used with permission of MECC, $252 \emptyset$ Broadway Dr., Lauderdale, MN 55113.

## RUNNING THE PROGRAM

This program will boot on a 3.3 Disk Operating System.

When running this program on the Apple IIe or IIc, the CAPS LOCK key must be kept down at all times. On the Franklin ACE 1øØø, the LOCK key must be depressed.

Put the disk in Drive \#l; close the door. If you are using an Apple II+, IIc, or IIe, the disk will boot automatically when you turn on the computer. If you have an Apple II, type PR\#6 and press <RETURN>. The program will load into your computer and run automatically; don't type catalog!

The credits will vanish and this frame will appear:


The best way to learn the program is to go through it as a student would. You (or the student) would type in your name and press <RETURN>.

The next frame to appear is:


Press the <SPACE BAR> to move the arrow. Press <RETURN> to enter your selection.

The lessons on this disk are also listed on the card included with this Teacher's Guide. If you are just starting to work with the program and there is no lesson assignment, start with the first lesson on the disk.

After the lesson name (RTl, for example) has been selected, the first screen to appear will be the INSTRUCTIONS for that lesson.

## INSTRUCTIONS

## You have learned that

 the main part of a word is called the ROOT.Let's review what we know about ROOTS.

Begin the lesson.
Press 〈RETURN〉.

The student may access the INSTRUCTIONS frame at any time by pressing "H" (and <RETURN>) when a response is called for. The program will automatically return to the appropriate question frame.

The frames in the lesson will then be presented. A typical QUESTION frame looks like this:

> Words like REMIND and
> REBUILD are made of a root and a prefix.
a. true
b. false
answer :

If answered correctly, the computer will present the next QUESTION frame.

Each incorrect answer may be followed by either a HINT or an EXPLANATION frame. The content and preference of the author determine which is used. These feedback frames may be changed by the teacher.

A HINT frame is generally used in tutorials to guide the student to the correct answer.

Words like REMIND and REBUILD are made of a root and a prefix.
a. true
b. false
answer
Sorry.
Press <RETURN> for hint.

Question Frame


Hint Frame

After displaying a HINT frame, the computer then returns to the frame just missed to give the student another chance. The number of chances a student is given may be set by the teacher via the Design Options, which are accessed through the Teacher's MENU; see page 17.

An EXPLANATION frame is frequently used in a testing sequence or when an explanation of the correct answer is needed.


## Explanation Frame

The correct answer is:
a prefix or a suffix
Affix is a name for prefixes and suffixes.

Press <RETURN>.

There is an ESCape option on this program. If for some reason you wish to terminate the lesson, press <ESC> any time a response is called for. What has been attempted up to that point will be recorded.

Unless a lesson is stopped by pressing the <ESC> key
when a response is called for, all items in the lesson will be presented. Scores are recorded in the STUDENT PLANNING file for later review by the teacher.

At the end of the lesson, the student will be shown the following screen indicating the number correct out of the number attempted:


If the teacher has used the Design Options to terminate a lesson after the student answers a certain number of questions in a row correct, the graph above will change slightly when the student achieves this criterion.

For example, if there are 16 questions in the lesson, the screen will say:
"Out of 16 questions, you answered 10 and had 10 correct on the first try."

The computer will then return the student to the "Type your name" frame, ready for another student or another lesson.

## FOR THE TEACHER ONLY

## Student Problems

After a student has begun work on a lesson, use the STUDENT PLANNING file to help you diagnose problem areas. This file keeps track of specific frames a student misses. If a student consistently misses certain items, you may want to add HINT frames or more practice frames. Use the CHANGE AN EXISTING LESSON option (from the Teacher's MENU) to modify any of the frames, add HINT or EXPLANATION frames, or simply add more practice frames. The following pages explain how to use these features.

Branching

This program has not been designed to automatically branch to an easier or more difficult lesson. It is the philosophy of the teachers who designed it that the teacher is better qualified to prescribe the next lesson based on his/her knowledge of the student's needs and the planned classroom activity.

By using the Design Options, the teacher can define the criteria under which the program will end a lesson if the content is too easy or too difficult for the student and alert the teacher that a new prescription is needed.

## Teacher's MENU

Programs available from the Teacher's MENU allow the teacher to modify lesson content, gain access to the recordkeeping files and change many options which affect the running of the student lessons.


This Teacher's MENU appears:


The following pages describe exactly how to use each of the features on the Teacher's MENU.

## CHANGE AN EXISTING LESSON

If you wish to change a lesson already on the disk, select 1 - CHANGE AN EXISTING LESSON from the Teacher's MENU.

The LESSON MENU will be displayed on the screen. Use the space bar to move the arrows to the lesson you wish to work on; press <RETURN>.


The lesson will be loaded into the computer. You can either add more frames or change existing ones.


If you want to increase the number of frames, type $Y_{0}$ You are limited to 30 frames per lesson.

You will then be asked:

## ADD HOW MANY FRAMES?

After indicating the number of frames you wish to add to the lesson, the INSTRUCTIONS frame will be shown. The computer will ask:

## CHANGE INSTRUCTIONS? N

The N is a default value. It is the answer already stored in the computer. If you do not want to change the INSTRUCTIONS frame, simply press <RETURN>; if you do wish to change this frame, you must type $Y$ <RETURN>.

If you are changing the INSTRUCTIONS the cursor will appear on the first line. An INSTRUCTION frame will look like this:

## instructions

Read the lesson carefully. Type the number of the correet answer to each question.

Sometimes there will not be a question. Then you should read the lesson carefully and press RETURN.

Inter instructions.
(While running the program, the student may access the INSTRUCTIONS frame at any time by pressing " H " when a response is called for.)

You may type new INSTRUCTIONS or change the existing ones. If you don't wish to change a line, just press <RETURN> to move the cursor to the next line. If you are adding frames, you will be shown the frame you wish to add. (If the lesson already has 19 frames, frame \#20 will appear blank, the cursor on the first line, ready for you to type.)

```
To back up and review the previous frames, use the <-
key. The use of the }\leftarrow\mathrm{ and }->\mathrm{ keys allows you to
page through the lesson.
```

To capitalize a letter, press the ^ key just before the letter to be capitalized. To make a blank ( _ ) in a question, use the @ sign. To underline, press the \# just before and just after typing the material to be underlined.

Frames may be either QUESTION frames or INFORMATION frames. The procedure for adding and changing frames is basically the same, except that when changing a frame, you begin with the contents previously entered in that frame. Use the <RETURN> key to advance from one line to the next as you create or change the contents of a frame.

Here is what a blank INFORMATION/QUESTION frame looks like:


## INFORMATION frame

Enter up to 7 lines of information with up to 25 characters each.

When an INFORMATION frame precedes a question, the student can (by use of the $\&$ key), go back to the INFORMATION frame for help in answering the question.

INFORMATION frames require no response. Use the \% in the answer's place to indicate to the computer that there will be no answer.

You have learned that some SUFFIXES form NOUNS and that other SUFFIXES form ADIICTIVES when they are used.

Many times you can tell if a word is a NOUN or an ADIECTIVE by looking at the surilx.
$\%$ (press return)

## QUESTION frame

This may take any format you would like.
You may enter up to 7 lines here as the question to be presented to the student. Each line may be up to 25 characters long.

Then enter up to 4 correct answers for each question. Be sure that the answer you want students to see (if they miss the question) is the first answer you enter.

This is a sample question frame with content entered:


SPECIAL NOTE on DELETING FRAMES: The program can delete only frames which have been saved on the disk. Therefore, if you add too many frames in the "CHANGE AN EXISTING LESSON" mode, you must save your editing. Select "CHANGE AN EXISTING LESSON" again. Now you can DELETE a frame. Type <CTRL D> (the CONTROL key and the D key, simultaneously) on the first space of the first line of the frame.

After entering a new frame or changing an existing one, you will then branch to the "secondary" Menu:

## DO YOU WANT TO:

1-ENTER HINT FRAME
2 - ENTER EXPLANATION FRAME
3- GO ON TO NEXT FRAME
4 - RE-ENTER PREVIOUS FRAME
S-END THIS LESSON
WHICH?

This allows you to enter a HINT or EXPLANATION frame. The HINT frame will be shown to the student if he misses the question. If you wish to enter a HINT frame, select 1 - ENTER HINT FRAME and this will appear:


You may enter up to 6 lines of text in a HINT frame.
After entering the HINT and pressing <RETURN>, the computer will automatically place you at the next frame, ready for the next question or more information.

Select 2 - ENTER EXPLANATION FRAME when a HINT might not be appropriate, but you want to give the student feedback other than just the answer. The EXPLANATION frame will be shown to the student after he has missed the question on his last try. (The number of tries is set by the teacher at the end of the lesson by using the Design Options.)

The EXPLANATION frame as you create/edit:

Sorry, the answer is:
paint
ARTIST = art + ist
ACTOR = act + or
PAINT = paint

Enter EXPLANATION for
frame 17.

The same EXPLANATION frame as the student sees it when running the lesson:


Note that the EXPLANATION frame will display the FIRST answer alternative entered on the related question frame.

You may enter up to 6 lines of 25 characters each in an EXPLANATION frame.

If you select 3 - GO ON TO THE NEXT FRAME, you will be taken to the next consecutive frame without entering a HINT or EXPLANATION FRAME for the previous question.

You may use 4 - RE-ENTER PREVIOUS FRAME if you have entered a HINT or an EXPLANATION frame and want to review the question frame.

Selecting 5 - END THIS LESSON will take you to the Design Options for the lesson you have just changed.

You may also stop making changes and go to the end of the lesson and the Design Options by typing end at the beginning of the first line of a question or an information frame. This seems a little scary, but don't worry! The changes made up to (but not including) this frame will be saved ALONG WITH THE REMAINING UNCHANGED FRAMES IN THE LESSON.

At the end of the lesson, the program asks you to enter the concept beging taught, i.e.,

## CONCEPT: ROOT WORD DETECTIVE

Unless you are completely rewriting the lesson, you may want to leave the concept as it is already listed. The concept statement is used in STUDENT PLANNING. The concept may be $3 \emptyset$ characters long.

DESIGN OPTIONS
The first of the Design Options will be shown next:

## DESIGN OPTIONS

DO YOU WANT THE STUDENT TO BE ABLE
TO BACK-UP AND RE-READ THE STORY
AT ANY TIME BEFORE ANSWERING A QUESTION?
ENTER 'Y' OR 'N' = = ■

## DESIGN OPTIONS

DO YOU WANT THE FRAMES OF THIS LESSON PRESENTED TO THE STUDENT IN RANDOM ORDER OR THE SAME ORDER IN WHICH YOU ENTERED THEM?

ENTER 'R' OR 'S' $=\Rightarrow$ S

For instructional lessons that are carefully sequenced, you would want the frames presented in the same order. For drill or tests, you may want random order.

## DESIGN OPTIONS

HOW MANY TRIES WOULD YOU LIKE TO GIVE THE STUDENT BEFORE THE CORRECT ANSWER IS DISPLAYED?

ENTER A NUMBER FROM 1 TO $9 \Rightarrow 2$

If you are using the HINT option, you will want to give the student at least 2 tries.

The following "Student Safeguards" allow you to set the criteria upon which the computer will branch to the end of the lesson. It is the philosophy of the teachers who designed this program that if a lesson is too easy or too difficult, the computer should terminate the lesson. The TEACHER should make the new prescription.


The next question relates to the above decision.


You will need to include at least several frames. If you don't, the lesson will terminate on the first frame if there is an error ( $\varnothing \%$ being below any \% you set in the previous step).

## STUDENT SAFEGUARDS

IF A STUDENT IS DOING WELL, THE LESSON WILL TERMINATE AFTER[]0 CONSECUTIVE CORRECT ANSWERS ON THE FIRST TRY.
(ENTER A NUMBER FROM 1 TO 25)

If there is a variety of skills taught or reviewed in one lesson, you may want the student to complete all the work no matter how well he/she does on the first questions. If so, change this option to include the number of questions in the lesson.

Note: By using the random order option and the Student Safeguards, this disk was designed to allow you to create a modifiable item pool. Rather than drawing a specific number of items, the items will be used until the student meets the criterion you specified (in terms of the number of items in a row correct) .

This type of criterion was considered preferable to a percentage because it takes into account the fact that the child may do poorly in the beginning but learn the concept during the lesson and begin to answer all items correctly.

The Student Safeguards do not apply to the final two Design Options. The authors assumed the teacher would want all missed items reviewed.


## DESIGN OPTIONS

WHEN THE CUESTIONS ARE PRESENTED AGAIN, HOW MANY TRIES wOULD YOU LIKE TO GIVE THE STUDENT BEFORE THE CORRECT ANSWER IS DISPLAYED?

ENTER A NUMBER FROM 1 TO $9=\Rightarrow \square$

After all the Design Options have been set, you will be asked if you want to:

## SAVE THIS LESSON? Y/N

If you type Y , the changes you have made will be incorporated into the lessons on the disk. If you type N , the lesson will be saved in its original form. (If you wish, you may also change the lesson name at this time if it is relevant to the lesson changes you have made.) You will then be returned to the Teacher's MENU.

## STUDENT PLANNING

As a student works through a lesson, the errors that (s) he makes are recorded in the STUDENT PLANNING file.

To see this file, bring up the Teacher's MENU and select 2 - STUDENT PLANNING. The first frame is:


Type N if you want to see the file; type Y if you want to completely erase all student records. Press <RETURN>.

If $N$, indicating you would like to see the file and not erase it, this frame will appear:

```
YOU HAVE }7\mathrm{ STUDENTS IN FILE.
THERE IS ROOM FOR 43 MORE.
DO YOU WANT TO:
    1- SEE ALL STUDENTS
    2 - SEE SOME STUDENTS
    3- PRINT STUDENT SUMMARY
    4-DELETE ALL STUDENTS
    5 - DELETE INDIVIDUAL STUDENTS
    6 - GO BACK TO MENU
    WHICH?
```

If you choose 1 - SEE ALL STUDENTS, the computer asks:

## ARE YOU USING A PRINTER? (Y/N)

If $Y$, it will ask for the slot which will usually be 1 or 2. If you're not sure, take off the cover and check the location of your printer card. After entering the slot number, all the records will be printed.

If you are not using a printer, results will be displayed on the screen. Scrolling of results is under control of the teacher.

If you want to see only some of the students, select 2 - SEE SOME STUDENTS. This frame appears:


As you select the students whose records you wish to view, you will be typing just the number of the student.


The computer keeps a running tally on the number of students you have selected.

Type the number of the student you want to see and press <RETURN>. For example: If you type 2, the lesson name and student name will appear at the bottom of the frame. This is a check. Press <RETURN> if that is the student you wish to see. This gives you a chance to change your mind and enter N if you don't want to see that particular student.


Continue selecting students whose records you want to see. When you have entered all of the students you wish to see, type END (in place of another number).

The following question is asked:

## ARE YOU USING A PRINTER? (Y/N)

If you type $N$, the records will come up on your monitor. If you type Y , you will be asked:

## WHICH SLOT?

It will usually be 1 or 2 , but if you're not sure, take off the cover and check the location of your printer card. The display and printout will be in the following format:


After all information is displayed, you will be asked:

## WANT TO DELETE ALL STUDENTS and clear the fle? y/n

The <ESC> key may be pressed at any time to terminate the display or printing of student records. A maximum of 50 records can be stored in this STUDENT PLANNING file. Space must then be cleared before additional records can be stored. To clear space, answer Y to the question at the end of the display/printout, use option 4 from the STUDENT PLANNING Menu - DELETE ALL STUDENTS or use option 5 - DELETE INDIVIDUAL STUDENTS.

## 3 - PRINT STUDENT SUMMARY

This option from the STUDENT PLANNING Menu allows you to see or print out a summary of records for the entire class. The summary is in the following format:


The printout of the Student Summary will include more information than you can see on the screen. The printout includes the skill statement, the number correct, and the number of questions.

|  |  |  | NUMBER |  |
| :--- | :--- | :--- | :--- | :--- |
| STUDENT NAME | LESSON | STST_TRY | CORRECI | SKILL |
| TIM | RT3 | $50 \%$ | $8 / 16$ | ROOTS CHANGE |
|  |  |  |  | SPELLING |

4 - DELETE ALL STUDENTS
If you want to clear all of your records, use this option.

5 - DELETE INDIVIDUAL STUDENTS
A number of teachers have asked for this option. This is most valuable when several teachers are using the same disk. It allows you to print the records of certain students and then erase only those records from the file. The procedure for indicating which students is the same as SEE SOME STUDENTS; selected records will be deleted.

## RUN LESSONS

See pages 2-7 for an explanation of how to run the lessons.

## CATALOG DISK

This file holds the list of all lessons on the disk. Press <RETURN> to go back to the MENU.

## PRINT LESSONS

This feature allows you to print out a list of any of the lessons on this disk. The first screen to appear is:

THIS PROGRAM IS DESIGNED TO PROVIDE YOU WITH A PRINTOUT OF YOUR LESSONS.

THE FORMAT SHOULD BE SUITABLE FOR MOST PRINTERS WHCH HAVE THE ABLLITY TO PRINT BOTH UPPER AND LOWER CASE CHARACTERS.

THERE MAY EE SOME VARIATIONS WITH OTHER MODELS.

PRESS RETURN

After the name of the lesson is entered, you will be asked to enter the printer slot number and the date.

When the printout is completed, you can enter another lesson, if desired.

## TURN SOUND ON/OFF

This option allows you to turn the sound which accompanies the graphics in this program ON and OFF. After making your selection, you will be returned to the Teacher's MENU.

## CHANGE REINFORCERS

This NEW option lets the teacher change the words that are shown when the student makes a correct response. Personalize the remarks! Use local phrases. Change these often to make learning more fun for your students.

## SUGGESTIONS FOR USE

This disk is a culmination of suggestions from teachers across the country who have been using the Hartley LANGUAGE ARTS series.

Although the limited room on the frames makes the lessons most appropriate for elementary students, secondary and adult education teachers have also used them effectively.

## DRILL AND PRACTICE

You may use the instructions followed by 30 questions. These may be randomly or sequentially presented. The Design Options may be used to terminate the lesson when the student reaches the specified performance level.


> Is the punctuation correct?

Mary and Sally went to the store, they bought Twinkies.
$\mathrm{Y} / \mathrm{N}$
answer:

## TUTORIALS

By having students progress through the frames in the same manner in which they were entered, you can build a carefully sequenced tutorial, complete with HINTS to guide your students to the correct answers.

$$
\begin{aligned}
& \text { Which adjective tells HOW MANY? } \\
& \text { Few people ever saw the Lost } \\
& \text { Dutchman Mine. } \\
& \text { 1) ever saw } \\
& \text { 2) Lost Dutchman Mine } \\
& \text { 3) few } \\
& \text { answer: + } \\
& \text { Sorry- } \\
& \text { Press 〈RETURN〉 for hint. }
\end{aligned}
$$

Question frame


TO IMPROVE SIMPLE COMPREHENSION
If an INFORMATION frame is followed by a QUESTION frame, the student can go back to the INFORMATION frame by pressing the $\leftarrow$ key.

The kitten lived in the old red barn.
She lived in one little corner. Her best friend was the horse.

> Information frame


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## OTHER USES

This program format has also been used for such diverse things as:
-teaching students to use the library
-working with LD students to develop sequencing skills
-matching vocabulary with definitions
Any instructional sequence which could be more effectively presented with the information broken down into small steps would fit nicely into this format.

## TROUBLESHOOTING

Some common problems and possible solutions are discussed here. Every care has been taken to produce and verify quality programs. If you are having technical difficulty with your disks, check here first! If these solutions do not seem applicable or do not correct the problem, call our toll-free number, l-80Ø-247-1380. We will try to help!

ERROR \#4: If the disk boots and runs one lesson but "hangs up" at the end of the lesson (usually with an error message like "ERR \#4 - BREAK IN LINE 12248"), remove the "write-protect tab"! The program is designed to store the student name and score on the disk at the end of each lesson; a tab covering the notch on the disk will not let the program "write" on the disk. If you get this message but no tab is on the disk, the switch inside the drive may be faulty.

I/O ERROR: The disk drive was physically unable to read the data on the disk. I/O errors can occur because the disk went through a magnetic field, static discharge, or something actually damaged the
media. This error message may also mean that the drive needs to be adjusted. (Try the disk on a different computer. If the same error appears, the problem is probably the disk, not the drive.) To replace the disk, please call for a return authorization number.

PRINTER WON'T PRINT: First check the printer slot number. (Take the cover off the computer and check the location of the printer card, which should be in slot 1 or slot 2.) Go to the Teacher's MENU, choose STUDENT RESULTS or PRINT LESSONS again. Be sure to enter the correct slot number when requested! Also, refer to your printer manual to be sure your printer is set up properly.

FILE FULL: If fifty student records have been stored on the disk, the fifty-first student will be able to boot the disk and run a lesson but will see a "FILE FULL. SEE YOUR TEACHER" message at the end of the lesson. This will alert you to the full file. Use the Teacher's MENU to go to STUDENT RESULTS. View or print out the records and then delete at least some of the records to clear space for more.
"CHANGE AN EXISTING LESSON" does not work: If you think you have changed a lesson but in running the lesson, your changes are not there, you probably did not go to the end of the lesson when modifying it. When editing a lesson, type "END" after all the changes are made. The program will ask you a series of questions, including the important "SAVE THIS LESSON? Y/N." To save changes, you must answer $Y$ to this question! Do not escape or reboot the disk before you do!

