DEVELOPED BY CARROLL CENTER AND PROJECT CABLE STAFF:

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PURPOSE

This manual has been written for a professional audience. It is intended for those persons who are in the process of forming their own center or for those trainers who need curriculum material on the instruction of access devices. It is not intended for consumers who want to learn devices. It is designed to answer many of the questions we have been fielding on how to set up a training program, what equipment is recommended, what training is needed for staff, where to obtain it, where to obtain curriculum materials, and what is useful.

This second edition documents our accomplishments and updates our materials from October 1984 through September 1985. The manual's organization can be ascertained from the table of contents. However, we wish to note that, in our curriculum section, information is included on client referral, prerequisites, screening, admission, training and evaluation as well as complete lesson plans and evaluation forms. The lesson plans are for those individuals who are familiar with the equipment and are going to train individuals in them. It is not intended for persons with no formal training.

Training for future trainers is available at Project CABLE during the summer months in a special program entitled Project BYTE. This is given for both teachers and visually impaired high school students. The teachers can take an introductory course on computers and/or a course on technology and access devices. Both are offered with college credit. The students are offered a two-week computer course with the use of access devices.

We hope that you will take seriously our request for feedback found in the last chapter of the manual. In our third edition, we will incorporate ideas which we receive from the users.

Also enclosed is an order form, should you or others wish to order another copy.

Our training has been evaluated by our most important audience--our graduates. The following is an excerpt from a client.

"I came into the Computer Program with an open mind about a word processor's usefulness in my life. Most of the writers I know sang its praises, but I couldn't visualize how synthetic speech would accomplish the same job as a small and, to me, visually inaccessible monitor did for them. It was mostly because of the quiet, patient, expert guidance of the instructor that I survived that horrible first day. I wasn't coddled or lied to; I was simply led through the initial work with her expectation that I was no dumber than anyone else.

"All the way through, the teaching has been wonderful. I am especially impressed with the flexibility and imagination that seem to prevail here. My instructor understood what my peculiar needs were and she tailored her teaching in response to those needs, telling me all the while that the process was a learning experience for her as well as for me.

"The entire staff here at the Computer Access Program seems to me to be ideally suited to this job. Their interaction together is warm, friendly, respectful---in short, a pleasure to behold. The mix of sighted and blind instructors seems ideal."

The original intent of PROJECT CABLE at The Carroll Center for the Blind was to provide computer assessment and training to visually impaired and blind persons pursuing vocational careers.

In the process of developing and implementing the project, it became obvious that additional services were imperative. If one were to unify and classify these additional services, the list would be as follows:

> (1) the need for ongoing, precise, and clearly focused information on:
> > computer hardware,
> > access devices,
> > software and
> > successful interfaces.
>
> (2) the need for enough education to enable referring counselors to make informed decisions about jobs, equipment and training site selections.
>
> (3) the need for hands-on training for itinerant and other teachers of visually impaired/blind students.

One cannot emphasize the importance of a good working relationship with all pertinent agencies, be these the State Bureau of Vocational Rehabilitation, the School Department, or the various placement services used by blind persons. Collaboration and networking is a fundamental part of Project CABLE and it is essential to its success.

Attempting to address some of the areas of need, the following goals and objectives were developed for the second operational year of the project:

Goal 1: To provide computer assessment and training to visually impaired and blind persons pursuing vocational careers.

> Objective 1: Sixty legally blind persons will be assessed and/or trained in the use of computer access devices.
>
> Objective 2: Fifteen individuals will be trained on computer access devices for job placement, retention or promotion.

Goal 2: To document and disseminate information to other

programs wishing to develop similar programs.

        Objective 1: Document all curriculum and program procedures and publish yearly.

        Objective 2: Present papers on the success of the project across the country at various conferences and conventions.

        Objective 3: Submit articles to various newspapers and periodicals about the program and graduates.

Goal 3: Provide professional educational services.

        Objective 1: Conduct a conference for rehabilitation professionals on technology for the visually impaired.

        Objective 2: Organize workshops, courses and individualized training for teachers in the use of adaptive technology so that they can mainstream students into computer courses.

        Objective 3: Organize courses for visually impaired high school students to learn and use adaptive equipment.

        Objective 4: Provide consultation and in-service training for school systems.

Goal 4: Reach out to other agencies to assist in the training and placement of individuals in jobs requiring data access.

        Objective 1: Maintain a liaison with our own state agency which serves the blind to facilitate client referrals and placements.

        Objective 2: Provide other New England state agencies with updated program information to promote referrals.

        Objective 3: Annually conduct an Open House for agencies, professionals and consumers.

        Objective 4: Facilitate job placements with Perkins' Project with Industry program.

Fall:

The success of CABLE's first year generated a waiting list of referrals to the program. To accommodate this growing enrollment, the CABLE staff enlarged its class size by one, revised the referral process and updated the fact sheet describing the program. An information sheet to prospective clients and a new public education brochure were also designed. New referral packets were then mailed to all state agencies serving the blind throughout New England.

One of the major goals for our second year was to widen communication and to improve our "networking" efforts with other rehabilitation and technology professionals. Toward this end, Project CABLE participated in many conferences and workshops throughout the country. These proved to be excellent resource-gathering opportunities for CABLE, and it also generated new referrals to our program.

Our Director was also invited to be part of a planning committee for a major event sponsored by Digital Equipment Corporation (DEC), makers of DECtalk, entitled "Opportunites with Technology for the Handicapped".

CABLE continued, meanwhile, to expand its curriculum to meet the needs of our trainees. This necessitated the acquisition of more equipment and software. Our staff created new lesson plans as new computers and access devices were added to the curriculum. A unit on modems and telecommunications was also added to the Assessment Course.

On December 19, 1984, CABLE held an all-day OPEN HOUSE. Well-attended by blind consumers, rehabilitation professionals, educators and corporate personnel, the OPEN HOUSE served to educate the public about computer accessibility, inform referring agencies about changes in our program and generate referrals. The OPEN HOUSE included vendor representation, "hands-on" computer time, resource materials, and a slide show about Project CABLE. From this day forward Project CABLE developed a reputation as a resource center for access device information. Many calls are received weekly from individuals across the United States seeking advice and recommendations regarding equipment.

Winter/Spring:

To better serve our students, CABLE staff revised the

screening format and the final evaluation reports in the winter
of 1984/85. A resource manual was developed which chronicled the
results of CABLE's first year of operation. Detailed lesson
plans were included. This resource manual was later mailed to
members of an informal group, called "HANDSHAKE", consisting of
professionals across the country working with computer access
devices for the blind. The manual was also offered for sale to
others in the field and was mailed widely.

During this time, our efforts to broaden our working
relationships with other groups continued:

.At the invitation of the Carroll Center, the newly
formed Special Needs Users Group of the Boston Computer
Society began to hold their monthly meetings at CABLE;

.CABLE staff trained a number of rehabilitation teachers
in specific access devices for the Massachusetts
Commission for the Blind;

.Our Director served on the DEC event committee;

.CABLE staff provided in-service programs to teachers
from two public school systems in Massachusetts;

and our efforts were rewarded:

.Perkins' Project With Industry (PWI) staff began to work
closely with CABLE staff and the Massachusetts Commission
for the Blind to provide follow-up and job placement to
our trainees;

.The Massachusetts Commission for the Blind continued to
facilitate referrals and training of their clients to
CABLE and to oversee purchase of computer equipment and
software for those placed in jobs.

.Articles were written about our program and graduates
and appeared in local and national magazines. In
addition, our Director was interviewed on the phone
numerous times for feature articles on technology for the
handicapped. Articles appeared in the following
publications: The Boston Business Journal, April, 1985,
The Eye Catcher, Spring 1985, Journal of Visual
Impairment and Blindness, December, 1984, On
Communication, June, 1985, Patriot Ledger, March, 1985
and Popular Computing, September, 1985.

.Work began on planning a Technology Conference for
Rehabilitation Professionals in conjunction with Boston
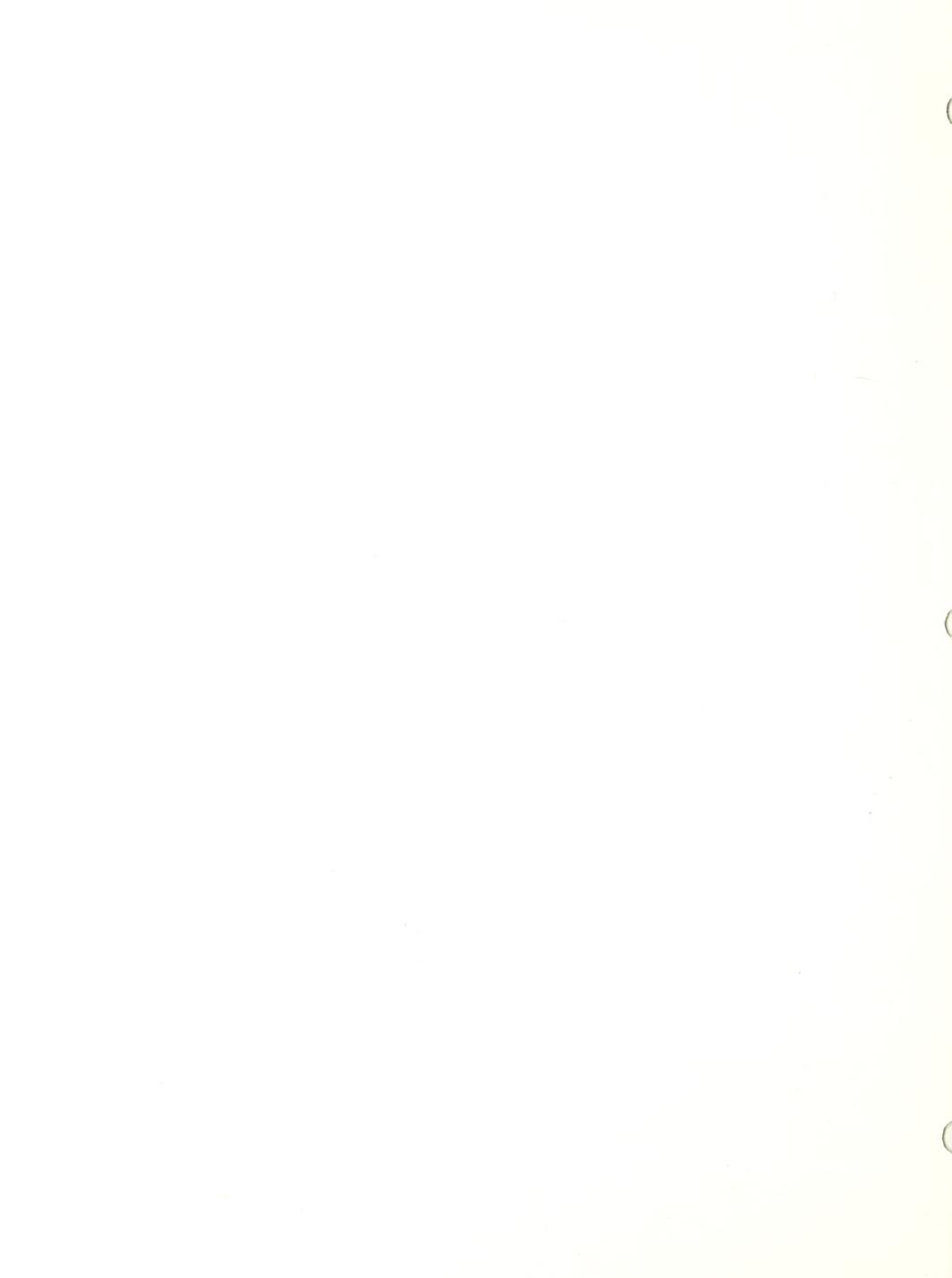
College and the American Foundation for the Blind. This conference, held in June, 1985, offered relevant speakers, "hands-on" training, vendor representation on a wide scale, and group discussions on topics from resources to teacher training over a two-day period.

.CABLE was invited to participate at the Northeast Rehabilitation Conference held in Atlantic City, New Jersey.

.The DEC event took place in April, 1985 with internationally famous entertainer Stevie Wonder presenting to the audience his own reliance on computer technology to facilitate composition.

.Our Director was invited to speak at the National American Council of the Blind Convention that summer in Las Vegas, Nevada.

Summer:

Once again Project BYTE served educators and teenagers throughout the summer. This year's schedule included a one-week introductory computer workshop for teachers, a two-week graduate adaptive technology course for teachers and a two-week computer camp for teenagers.

With a very promising third year ahead, and the accumulation of a now large amount of resources, computer equipment and software, CABLE's expansion to larger quarters was essential, and so renovations began on a vacant building donated by the Carroll Center, the former St. Paul's dormitory.

<u>Statistics</u>

<u>From</u> <u>October</u> <u>1984</u> <u>to</u> <u>October</u> <u>1985</u>

<u>Assessment</u> <u>and</u> <u>Training</u> <u>Courses</u>:   <u>Number</u> <u>Served</u>:

    Total applications sent: 172
    Total clients screened: 102
    Total clients served: 83
    Total clients waiting to be served: 18

    Total assessment clients: 50

        Low vision: 20
        Totally blind: 30

     Current status:
        Students: 10
        Employed: 25
        (5 placed with the assistance of PWI)

    Total trained clients: 33

        Low vision: 2
        Totally blind: 31

     Current status
:   Students: 6
        Employed: 24
        (9 placed with assistance of PWI)

    State agency personnel trained: 9

    Project BYTE teachers trained: 18

    Project BYTE students served: 19

    Guests who visited the center: 60
    including one each from Egypt,
               France and
               Japan.

    Attendees at demonstrations: 18

    Attendees at special events: 593
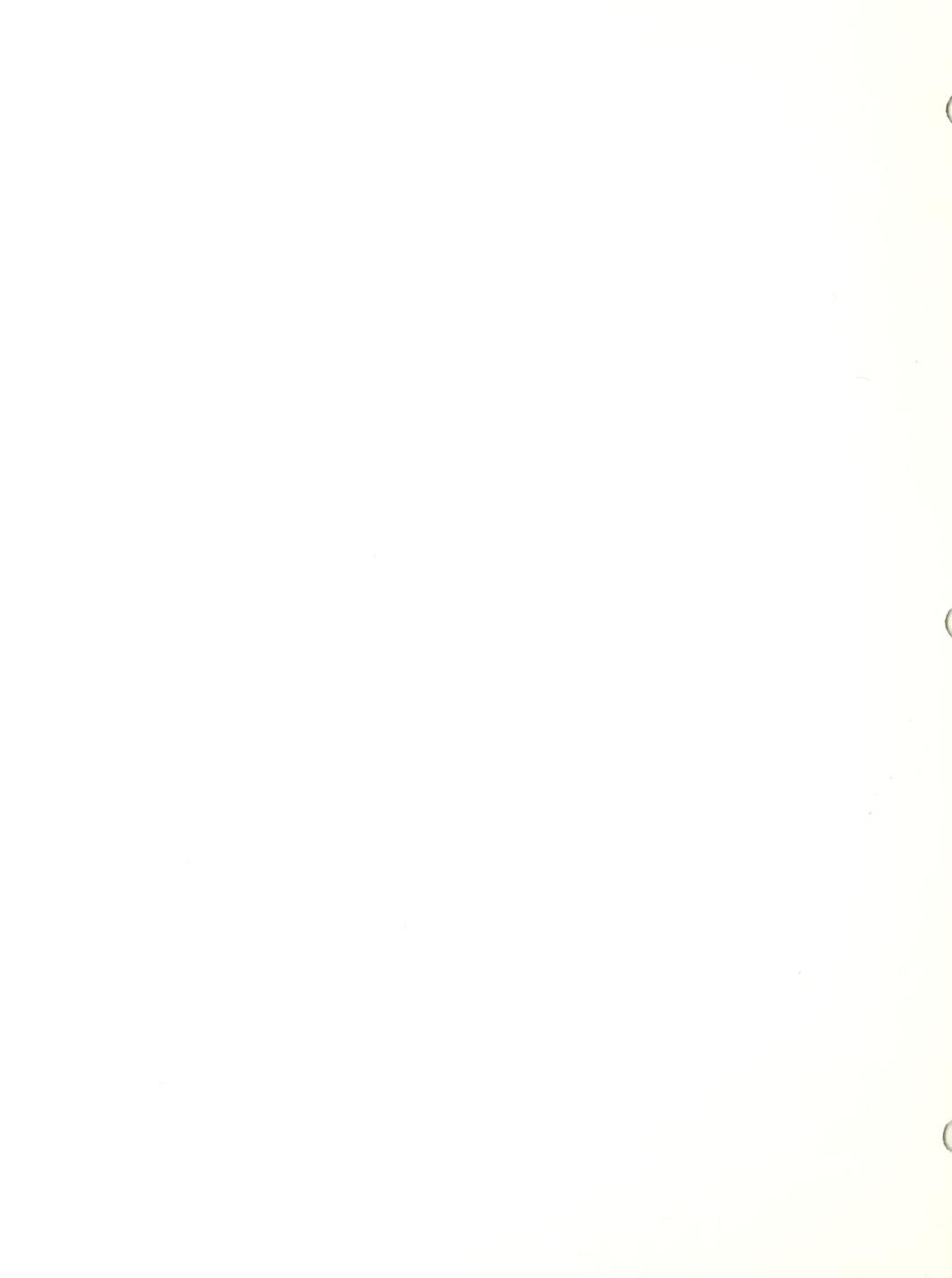
Open house, December 19, 1984:   98
"Opportunities Through Technology": 400
Technology Conference: 75

Resource Manuals sold: 111

Our Funding: Project CABLE receives funding through a federal grant from Rehabilitation Services--Special Projects which expires October, 1986. Application for refunding is pending. If not forthcoming, we will have to increase our fees. Because equipment purchases through the grant have made us fully operational, money will primarily be sought to support staff and update equipment.

Currently, grant monies support half of the program; the other half is paid for by the referring agency or the individual. As an established program, we received donations of computer hardware and software from some of the vendors. No program can rely on such gifts, however, and to do so would jeopardize the quality of the program since it would limit the courses to the donated equipment which might not be the most widely used in industry or the most effective with access devices.

Finding Funding: Instead of publishing the names of those who gave us money, we can recommend principles of seeking out money and donations. Our first warning is that finding money is hard work and demands a strong belief that the program is important and needed. This is especially important to remember if you are representing a small organization that has no established credentials with foundation personnel. It required two years and three grant applications for us to get initial funding.

Foundations are good sources if their guidelines allow you to apply, but they will usually not give large amounts unless you have a personal contact or relationship with the trustees so that you can make a more personal appeal. More in keeping with their giving patterns are small gifts ranging in size from $500 to $20,000. This is not enough to start a program because of the expense of capital outlay for equipment in start-up costs.

A good plan should addresss how many foundations are likely to give and how much each can be expected to give.

In overall giving, corporations lag behind all other funding sources, i.e., government grants, individual donors, and foundations. It is unlikely therefore that IBM or DEC or any other computer company will break their usual pattern and give the $80,000 that is needed to get a good program started. Instead, they will give small donations that usually require a match; for example, a grant to purchase their equipment at half price is not uncommon. You still have to come up with the matching money.

In your fund-raising plan, address the need for ongoing support.

In its first Resource Manual, the Carroll Center reported on the composition of the Steering Committee and the cooperation between the private agencies and the State agency to get this program started. This cooperation has led to a good referral base, and a promise of on-going support for the program once federal funds are cut back. In addition, it lends valuable credibility when applying to foundations and corporations for funding for a piece of equipment or a specific project within the total program.

The novice fund-raiser must remember that, for every proposal funded, 100 proposals have been rejected. This can be discouraging if the first 100 that are written by your program are rejected. This could signal that something is missing in the program outline, preventing you from selling it to the foundations, corporations, or government source. Many foundations have few or no paid staff and will not even respond.

For those who do respond, however, even negatively, go back and ask for criticism. Ask if your rejection had something to do with the design of the program. If it truly does not fall within the guidelines, try to determine if any change in the program would make it fundable from their point of view. Sometimes it is possible to receive copies of grants that were funded. This can tell you what style of proposal the organization funds.

Be persistent without being belligerent. Unless you head a large organization, such as a successful private university, with a good history of fund-raising, you need to make convincing arguments as to the need for the program and the important contribution this funding source will make by supporting your project.

<u>Project Director</u>: Plans, organizes, coordinates, directs and monitors the operation of the computer access project. This is a full-time position. Duties and responsibilities:

> .Develops and maintains cooperative relationships with referring state VR agencies, local business community and staff at the Carroll Center.
> .Conducts interviews with all course applicants.
> .Coordinates application process and scheduling of courses.
> .Supervises program staff.
> .Monitors program implementation and results.
> .Organizes curriculum with instructional staff.
> .Monitors client and program evaluation.
> .Provides resource information on request.
> .Organizes equipment purchase and servicing.
> .Prepares and presents conference papers.
> .Solicits equipment donations.
> .Documents all program activities.

The current Project Director is Miss Dina Wischkin, M.Ed.

<u>Instructor</u>: (Full-time) Assesses, evaluates, and trains legally blind persons in the use of computers and adaptive devices, implements new software and hardware into the program and works on the development of course content under the direction of the Project Director. Duties and responsibilities:

> .Lectures and instructs students in course content.
> .Assesses students in computer and access device use.
> .Documents students' progress in courses.
> .Assists in the writing of the students' evaluations with the Project Director.
> .Sets up new hardware and implements new software into the courses.
> .Instructs trainees in the use of adaptive equipment.
> .Continually works on the development of lesson plans under the direction of the Project Director.
> .Trains students in the troubleshooting techniques and acquaints students with computer-related materials available in accessible materials.
> .Facilitates a blind computer users club.
> .Makes equipment recommendations to Project Director.

The current full-time Instructor is Mr. Brian Charlson.

<u>Instructors</u>: (Part-time) Prepare lesson plans and instruct trainees in computers, adaptive equipment and application
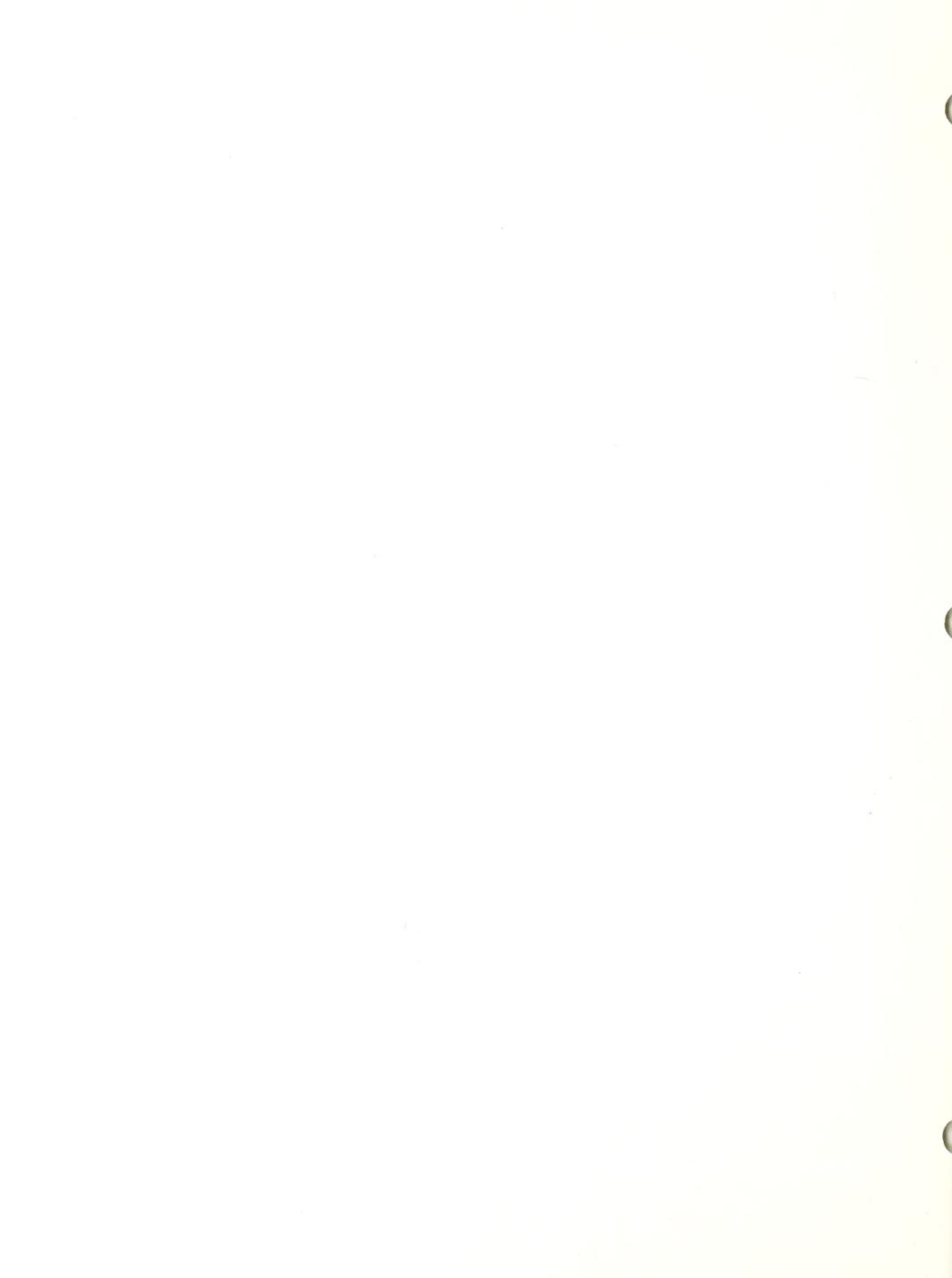
programs and document students' performance in the course.
Duties and responsibilities:

> .Create lesson plans and materials for training courses.
> .Instruct trainees in computers, adaptive equipment and
> application programs.
> .Document students' performance and assist Project
> Director in preparing the written evaluations.
> .Assess students in computer and access device use.

Currently the Carroll Center employs two part-time instructors,
Mrs. Nancy Tavis and Mrs. Nancy Maguire.

Consultants: Consultants are utilized for technical assistance
in computer software and hardware, for low vision assessment and
for educational input at workshops. Questions on equipment and
interfacing difficulties are resolved alternatively by specific
vendors and by Phillip Davis, a rehabilitation engineer working
for the State agency. All low vision clients who came into the
program were assessed by Robert McGillivray, Administrator of Low
Vision Services at the Carroll Center, to determine if use of an
enlarged screen image would be an appropriate medium for work or
educational use. Lynne Albright, of New Hampshire Blind
Educational Services, helped to plan and implement and served as
instructor in Project BYTE. Richard Connors, Supervisor of
Community Services at the Carroll Center, initiated and oversaw
all details of the implementation of Project Byte.

Secretary/Administrative Assistant: (Part-time) Carries out
various clerical, and administrative duties designated by the
Project Director that include:

> .Editing and printing of reports, letters and memos;
> .Distributing referral information to consumers and
agency workers;
> .Informing clients of their admission dates;
> .Keeping mailing lists;
> .Submitting billing information to business office;
> .Answering telephone requests;
> .Mailing and invoicing of resource manual.

The current secretary is Mrs. Madeline Cornelli.

Steering Committee: The Steering Committee consists of
representatives from state and private agencies and corporations.
The Committee meets four times a year to oversee the
implementation of the program and provides technical assistance,
guidance and support.

Volunteers: Volunteers are used for various tasks in the program.
If the individual has a background in computers and/or access
devices they may assist instructors in the teaching of clients or
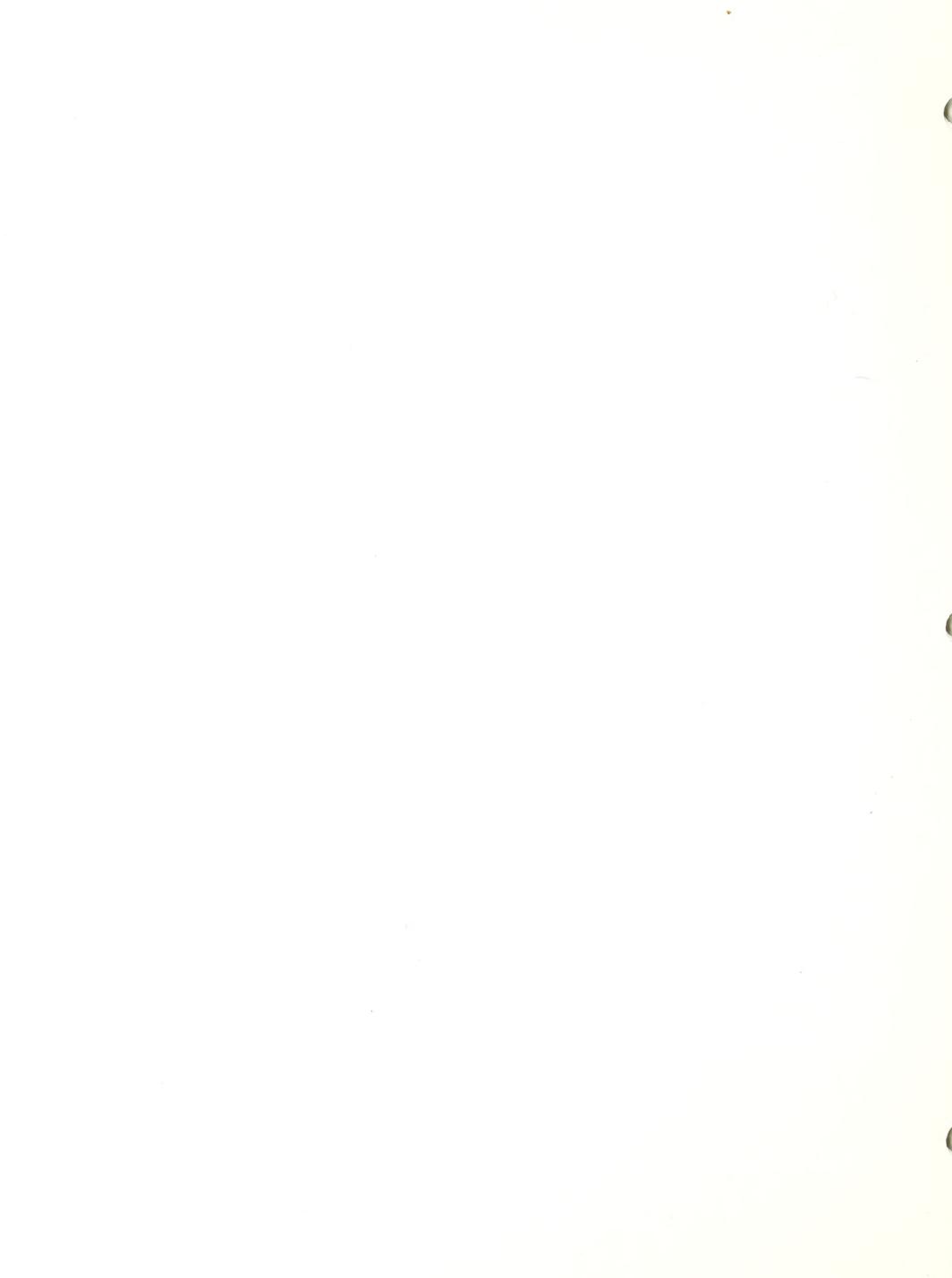
provide consulting services to the staff.

Other volunteers are recruited to greet residing clients when they arrive at the dormitory. Clients are given a brief orientation to their rooms and dormitory area. The following day they are given orientation to the remaining buildings by the staff. Volunteers are also utilized to assist with large mailings, to help compile the resource manual, to provide assistance at our annual open house, and to help with filing, etc.
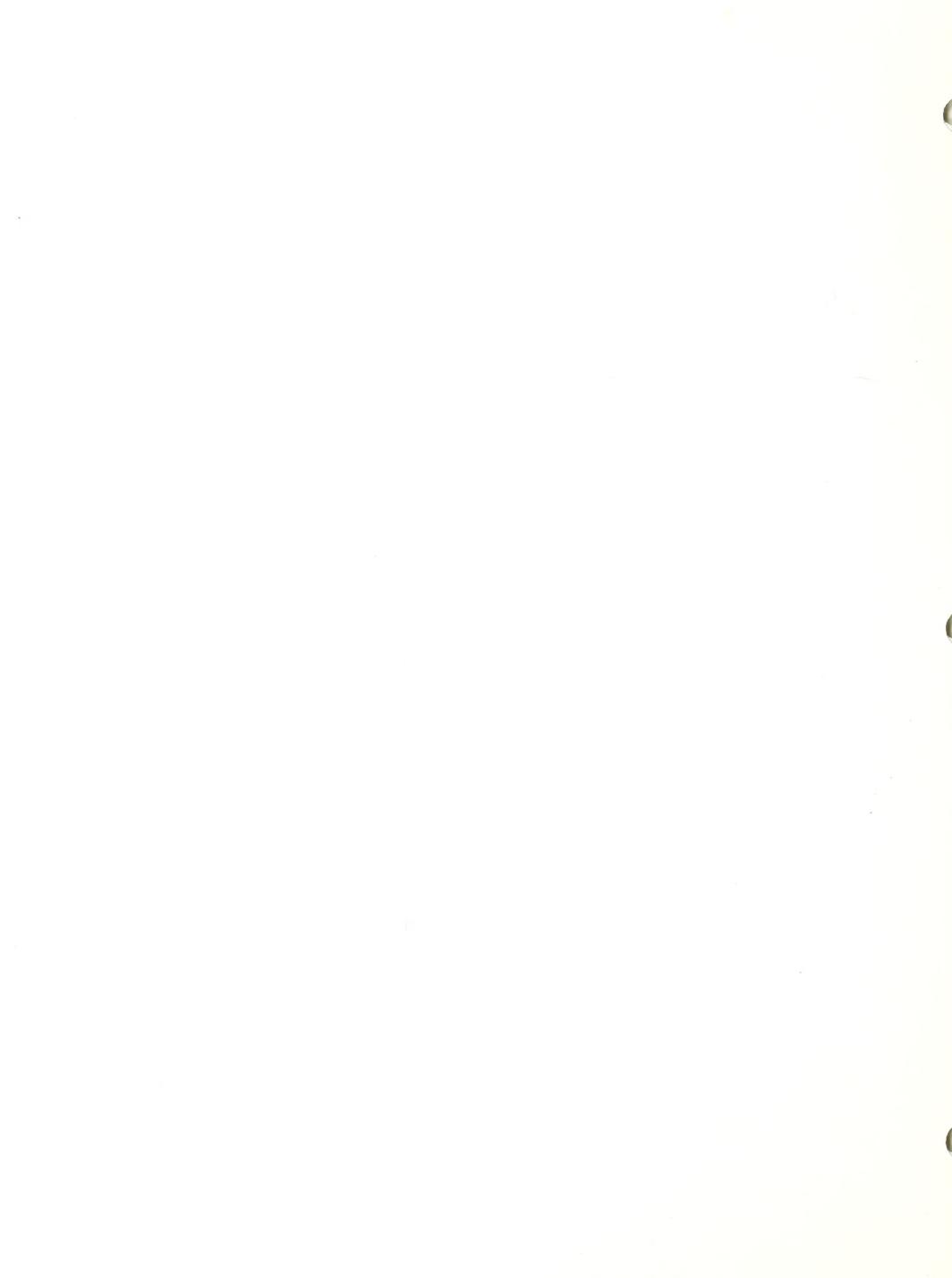
The Computer Assessment course remains a valuable tool in identifying a blind individual's ability to utilize computers for vocational careers. During the two weeks of instruction, the client is exposed to Apple and IBM microcomputers, develops a computer vocabulary, experiments with speech, large print and/or braille displays and identifies for himself whether the use of a computer, as a tool or career, is a realistic vocational pursuit.

Referrals: The bulk of clients who attended the program were referred by vocational rehabilitation counselors of the Massacusetts Commission for the Blind. Twenty percent (20%) of the clients represented referrals from the other New England States and beyond. While technically still a state agency referral, blind individuals themselves often initiated the process by telephone or written inquiry. .

Whatever the source or manner of referrals, all applicants were sent an application packet consisting of a fact sheet describing the two programs, a referral sheet describing the application process and an application form. (Appendix A)

Screening: Screening is a twofold process. Once an application is received, an appointment is made for an interview with the Project Director. Clients who reside more than 100 miles away are given a telephone interview. In addition to gathering information on the clients' medical, employment and education history, information is sought regarding the clients' knowledge, if any, of computers (Appendix B).

Prerequisite Skills: Simply stated these are: (1) keyboard skills, (2) independent travel ability and (3) a vocational or educational goal. Counselors have been consistently reminded of the prerequisites needed for the program. All the state agencies in the New England region were kept updated on changes in the program and were sent new application packets. Despite this, the Project Director felt it necessary to attend the monthly meetings of the Vocational Rehabilitation staff in Massachusetts to close significant gaps of understanding by the referring workers about the expected outcomes of the program. This created an opportunity for questions to be answered and concerns expressed.

Despite these facts, a significant problem has continued to plague the program, and that is the number of clients referred with poor keyboard skills. Although typing has always remained a number one priority, it has to be continually emphasized that agency personnel confirm with the client that they have good typing skills.
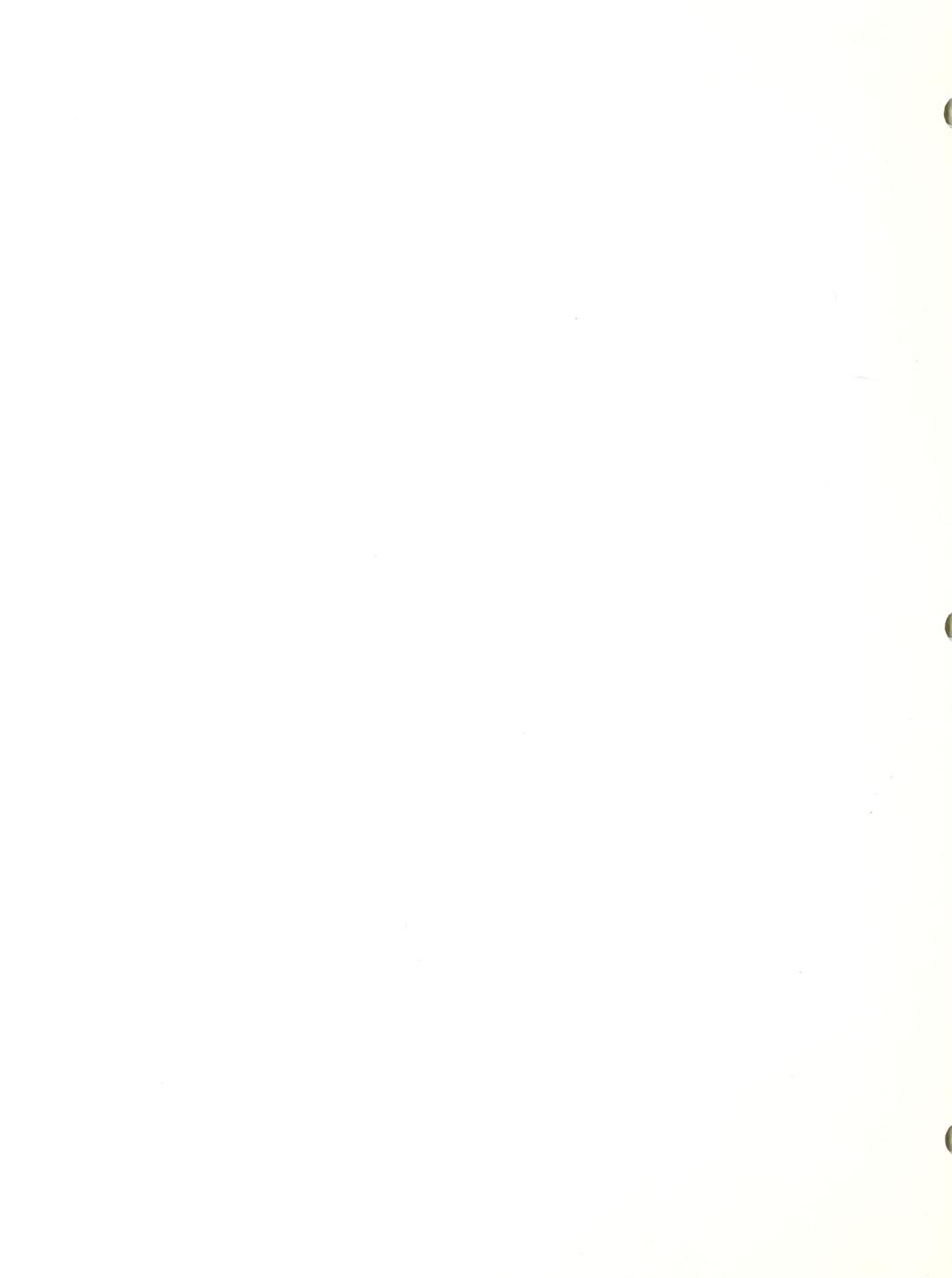
The lack of independent travel skills has also caused problems. Many clients who claimed to have "independent" mobility skills had great difficulty in learning the campus of the center and travelling independently. Thus, we now demand that clients, who have never been to a program at the center before, receive mobility orientation from a mobility instructor on the campus prior to starting in the program. To alleviate this problem and relieve the burden placed on the residence staff, we recruited volunteers to meet clients upon arrival Sunday evening.

The third prerequisite was that the client have a vocational goal. Individuals who were interested in merely "finding-out" about technology and possessed no desire to pursue a vocation would not be appropriate. Despite our efforts some individuals did come into the program with a view to vaguely explore technology.

Admission: Admission decisions are made by the Project Director. In some cases, more information is needed and the referring counselor is consulted. Clients who do not have appropriate typing skills, but otherwise seem appropriate for the program are required to take a typing course or practice for a sufficient amount of time before being admitted to the program. When their typing has improved, they return for another typing test. If they pass, they are admitted into the program.

Scheduling: Usually an application can be processed so that a client can begin within six (6) weeks. Priority is given to those who have an identified job.

Assessment Curriculum: The Assessment course has remained a valuable tool in identifying an individual's potential to utilize computers in employment settings. Initially it provided the vocational rehabilitation counselor with a vocational evaluation of a client's strengths and weaknesses in computer use. However, during the second year, at the request of employers and with the client's agreement, assessment results were shared with them. In this way, the assessment became a valuable tool for employers who were making hiring decisions about graduates. Many clients became employed as a result.

The assessment course continues to be two weeks long. It is comprised of three interwoven components--information, instruction and experience.

> The first is to provide basic information with respect to computers: terminology, hands-on exposure to keyboard, monitor, disks, etc., plus the use of literature in enlarged print, braille, or on cassette and finally to provide information through class discussions and demonstrations.

The second is to provide the student with basic instruction and hands-on use of the different computers, adaptive devices and application software. Initially students are introduced to the keyboard and speech. As soon as those components are mastered, applications such as word processing programs and data base management (creating and entering information into a data base) are introduced, as well as the use of programs for the management of financial data and telecommunications.

The third, and most important component of the curriculum, is the use of activities to test client ability to utilize equipment in simulated work environments and provide the instructor with valuable information to decide which is the best adaptive device for that student. During the second year, more work-simulated activities were added to the curriculum, including typing dictated letters, entering data into a data base, scanning information off the screen and using spread sheets.
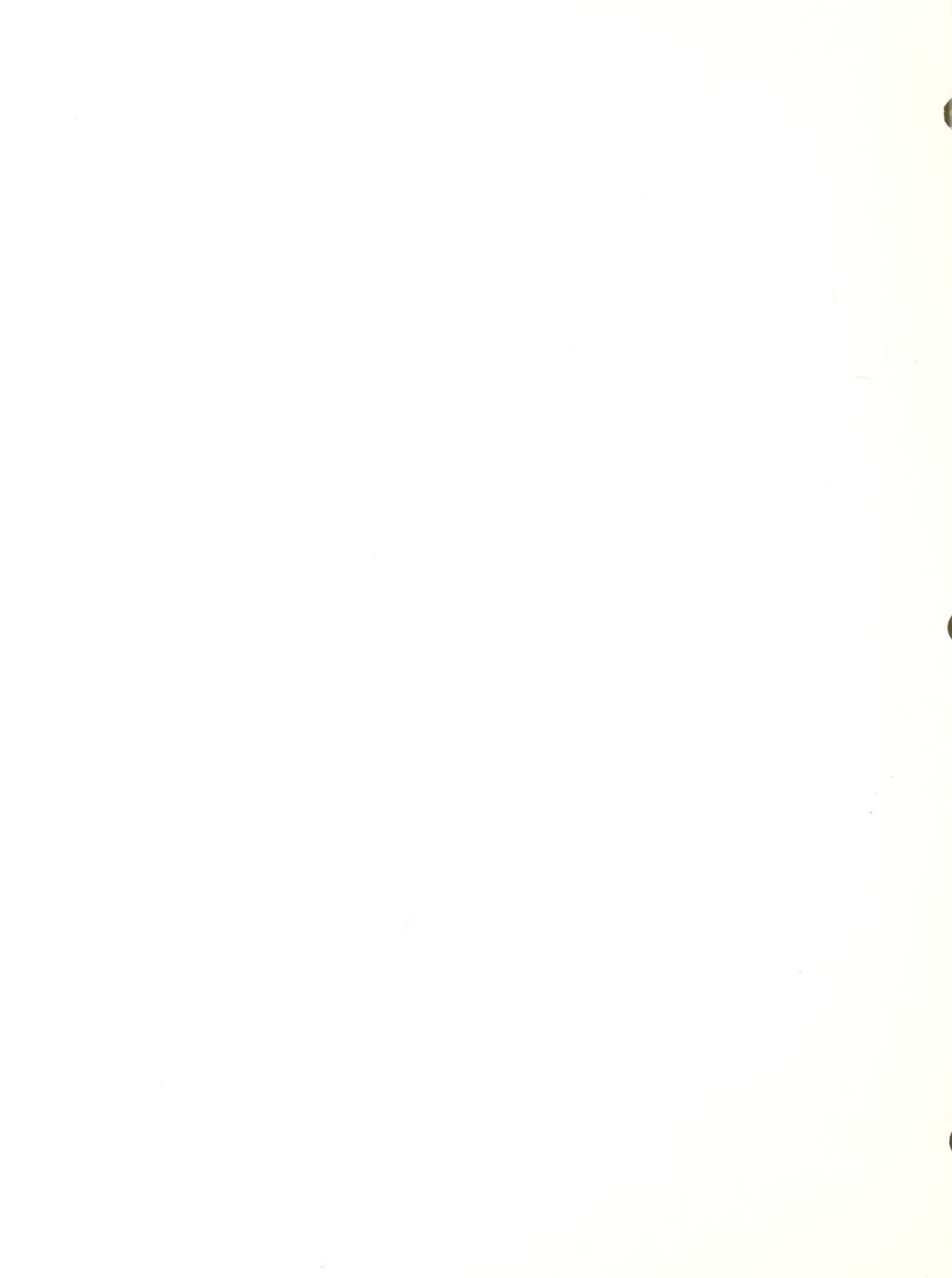
Objective: To acquaint the student with the facility and grounds, so that they can travel independently and comfortably.

Materials: Tactile map of campus.

Prerequisites: Student must have existing independent travel skills. If it appears that the student is not independent, professional instruction in orientation and mobility should be given prior to arrival in the program.

Procedure: Using the student's preferred method of mobility (i.e. sighted guide, cane, etc.) walk the student through all routes which would be used throughout the course of a normal day. Include, also, orientation to any rooms which may be used during the training period and orientation to dining hall layout and procedures.
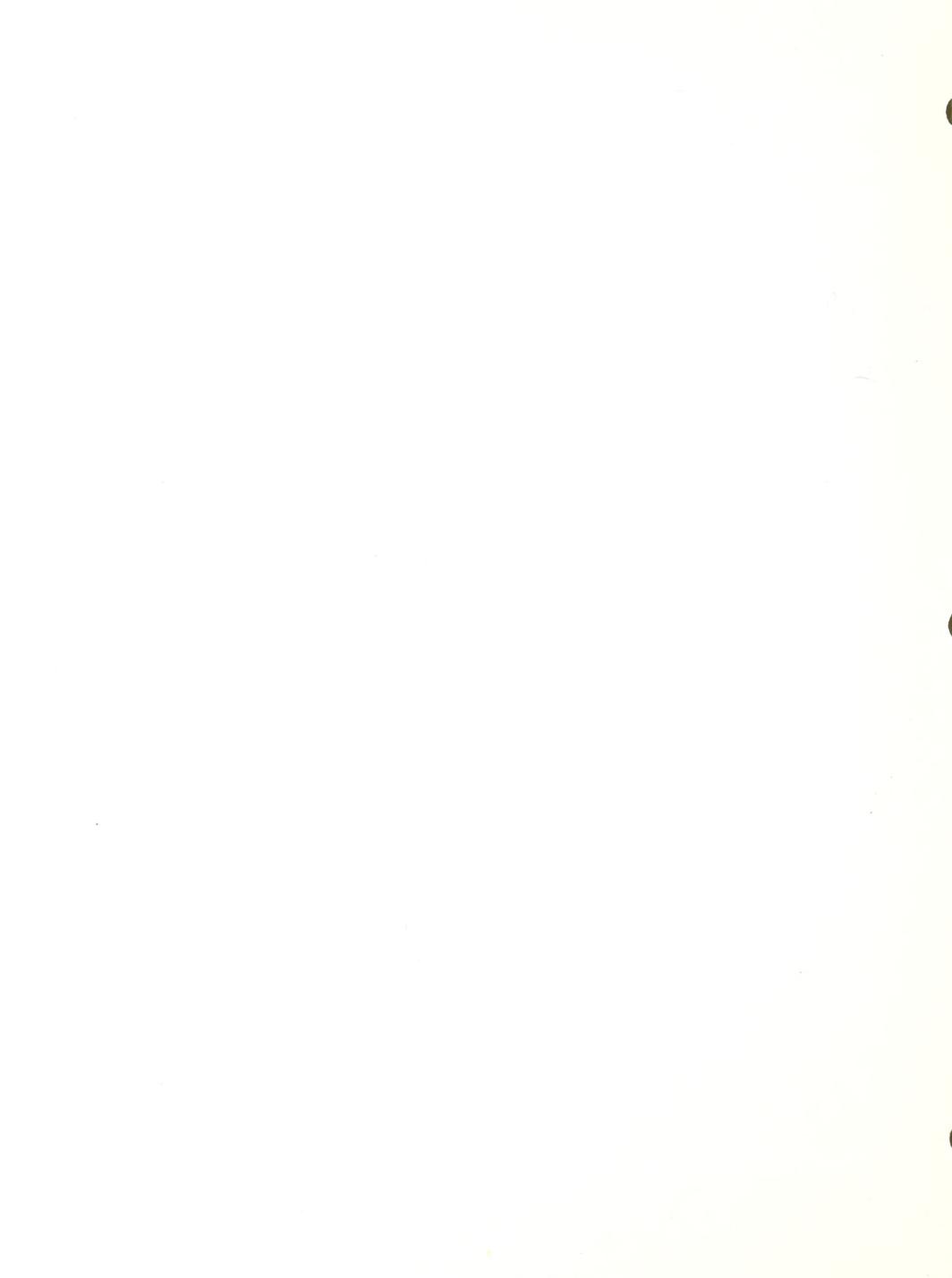
INTRODUCTION TO THE APPLE IIE COMPUTER AND ECHO SPEECH,
Day 1 and 2

<u>Objective</u>: The student will learn the keyboard of the Apple IIe Computer and have practice in listening to speech through the Echo speech synthesizer.

<u>Materials</u>: Apple IIe computer with two disk drives, installed Echo speech synthesizer, "Apple Presents Apple" Software, Textalker speech program, Sec Demo program (comes with Echo), Talking Writer Typing Game, an adventure game (Dungeons of the Gods), Harvey Lauer's training disk (available from Raised Dot Computing), and headphones.

<u>Prerequisite</u>: Ability to touch type.

<u>Procedure and Exercises</u>:

1. Discussion of computer components, keyboard and proper handling of disks. Practice in the following: inserting disk, turning computer power on.

2. If sighted reader is available, load "Apple Presents Apple" and complete tutorial with student by reading the screen, while having the student utilize the keyboard. (Because of its heavy use of graphics, this particular software cannot be used with speech output.)

3. Introduction to speech: Have student load the Sec Demo program, listen to tutorial and type in words for the computer to echo. Show the student how words can sound as they should by typing them in separate syllables: (cre ate) or how one can respell a word: (by nairy for binary).

4. Practice with keyboard: Load in the typing game from <u>Talking Writer</u>. Have student practice all the keys and play the game at the end until 80% accuracy is obtained.

5. Practice with speech: Load in Textalker. <u>Exercise 1</u>: Have student work with spelling test program on this disk or an enhanced version of the spelling program. <u>Exercise 2</u>: Load in adventure game. Have student play game for a minimum of 2 hours. It is important to stress to students that speech comprehension can be initially frustrating, but, with practice, most all students do reach a good comprehension level.

6. Apple-speech tutorial: Load in the Lauer training disk and have student listen to the various segments related to speech with the Apple IIe. (This can be

overwhelming for some students and may be listened to over a period of days.)

Evaluation: During this lesson you will observe the student's keyboard skills for independence, speed and accuracy; the student's ability to understand the speech; the student's ability to quickly learn and remember command sequences.

VTEK DP10, FOR LOW VISION CLIENTS ONLY, Day 1 or 2

Objective: The student will learn to use the system to get large print display for computer use.

Materials: Apple IIe, VTek DP-10, large monitor, and text-oriented program (a program with no graphics and one that fills the screen with text).

Procedure:

     1. Install system.

     2. Load an application program.

     3. Explain and demonstrate the following items on the DP-10 User Control Panel:
          .Joystick
          .Enlargement Knob
          .Enlarged / x1 switch
          .Cursor button
          .Next Line button
          .Home button

     4. Assist student in determining his/her comfortable viewing options (enlargement, pos/neg image) and correct focal distance, etc.

     5. Once the use of the system is accomplished, the student may word process and play games as in the other lessons utilizing the large print with speech.

Evaluation: Assess student's ability to read screen in large print; work at an appropriate speed with the large print; perform work accurately. Overall evaluation that large print is the best mode of access.

READING OF COMPUTER-ORIENTED LITERATURE, Ongoing

Objective: To expose students to current computer literature reviewing topics such as: terminology, equipment, and adaptations.

Materials: Various pieces of literature in print, on tape and in braille: PERSONAL COMPUTERS (taped from Scientific American), AIDS AND APPLIANCES REVIEW: SPEECH OUTPUT COMPUTERS (Carroll Center for the Blind), AIDS AND APPLIANCES REVIEW:BRAILLE OUTPUT COMPUTERS (Carroll Center for the Blind), BAUD MAGAZINE (Blind Apple Users Discussion-Joe Jovanelli), INTRODUCTION TO MICROCOMPUTERS (Hadley School for the Blind).

Procedure: Have student read materials during first week of instruction to introduce, supplement, and review information covered in training. Other literature should be made available for those students seeking enrichment. Make these materials available for use in free time or to be checked out overnight.

Objective: To introduce students to word processing, using this software. Commands covered are simple writing, reading and editing.

Materials: Apple IIe computer, Echo II speech synthesizer, BRAILLE-EDIT program disk, BRAILLE-EDIT USERS MANUAL, a data disk, and headphones.

Procedure:
1. Getting started: Insert BOOT disk in drive 1 and data disk in drive 2, turn computer on, enter * to set a new configuration or E2 for speech, LP for DP-10, or VB for VersaBraille. At Start-up menu turn disk over or put in Main disk and hit space bar.

2. Entering text: At Main menu enter "E" (for editor), type in a chapter name and hit return. When blank screen appears, ask student to begin writing. Remind them that they only need to strike return when beginning a paragraph. Further, explain that they need not correct errors, because word processing allows them to correct after initial typing.

3. Reviewing text: Instruct the student in the following commands to review what was typed:
         CONTROL G - reads forward, word by word
         CONTROL R - reads back, word by word
         CONTROL Z, space bar - to zip to the beginning of the document
         CONTROL A, space bar - to advance to end of document
         CONTROL A, a #, space bar to advance cursor to specific character # in text
         CONTROL W, speaks current cursor position
         CONTROL Y, speaks next 50 character, cursor does not move
         CONTROL O, speaks and advances cursor about 520 characters
         CONTROL T, speaks and moves cursor 50 characters
         Arrow keys (left and right) - to read letter by letter

4. Editing text: The concept of inserting, deleting and typing over text is usually foreign to the new user. So these concepts MUST be explained before editing the text. We suggest examples be completed with the instructor.
         CONTROL D, space bar - to delete a letter
         CONTROL D, CONTROL W - to delete a word
         CONTROL I - to insert, CONTROL N to end insert

```
CONTROL Q - to save chapter
Typing over letters
```

For further commands and information, refer to the
BRAILLE-EDIT manual.

5. Exercises: Have student create 3 documents:

.A first document where the student chooses his
subject.
.A document with embedded formatting.
.A business letter (It is helpful to have the
student write this from a dictated tape.)

Print the last two.

<u>Evaluation</u>: Evaluate student's ability to learn and perform word
processing; ability to write (spelling, grammer, clerical
skills); ability to learn a program and perform the simple tasks
independently; ability to identify and correct errors; ability
to use two-key control sequences.

Objective: To evaluate student's keyboard and spelling skills.

Materials: Apple IIe computer, BRAILLE-EDIT and text for a 3-minute dictation.

Procedure:

1. Student should start up word-processing program and open a new chapter / file.

2. Instructor explains format of selected passage. (paragraphs, capital letters, unusual symbols, etc.)

3. Instructor begins paced reading of passage, while timing for three minutes.

4. Print test, and tally words per minute and errors per minute.

5. Have student correct errors.

Evaluaton: Assess keyboarding skills, speed, listening skills, spelling.
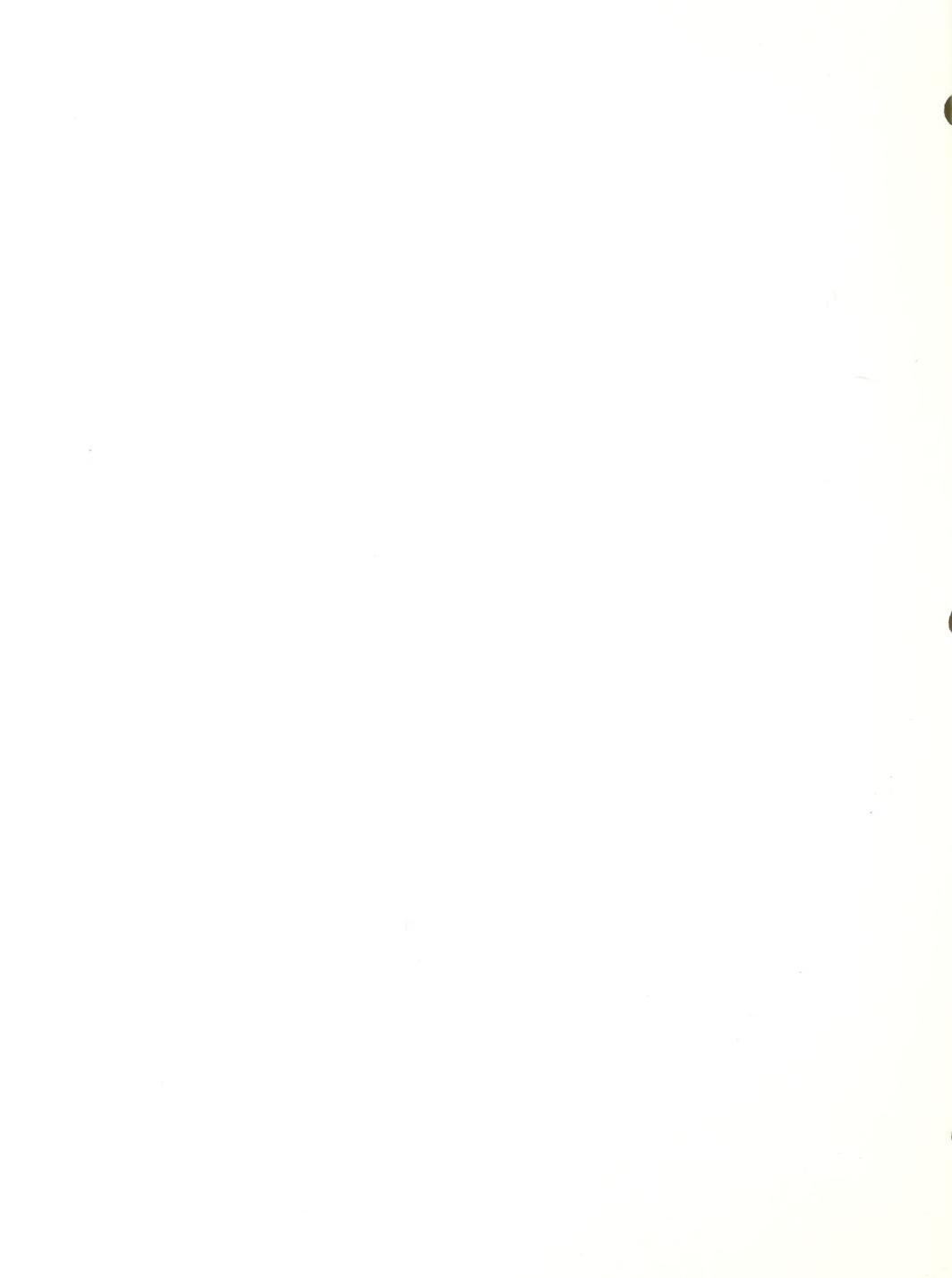
Objective: The student will learn how to use review mode to scan information on the screen.

Materials: Apple IIe computer, Echo II speech synthesizer, Textalker software, text programs, and the Echo II Manual.

Procedure:
1. Load the Textalker program.

2. Fill the monitor screen with text. (either by running a text-oriented program or a simple BASIC program)

3. Ask student to press control key and L together.

4. Ask student to press the letter A. (to begin at top of screen - line A) Explain the following keys:
- .Control L - to enter review
- .T - toggles between letter-by-letter and word-by-word reading
- .Left arrow - read letter to the left
- .Right arrow - read letter to the right
- .Semicolon - moves up one line
- .Backslash - moves down one line
- .Return - the reader key, reads selected line
- .Esc - exit review mode

5. Have student practice use of keys to review screen with various text-oriented programs.

Evaluation: Ability to understand speech, learn commands, move a cursor around on the screen and keep track of where it is in relation to the screen.

Objective: To expose the student to the use of an Apple Computer with a modem for gaining access to electronic bulletin boards.

Materials: Super Serial Card (Switch 1 settings: off-off-off-on-on-on-on; Switch 2 settings: on-on-on-on-off-on-on; set to modem); Echo card; Apple IIe; Modem (Smart Modem cabled to serial card), and Talking Termexec software.

Procedure:

1. Boot up program-it takes about a minute to load.

2. Set-up: At the prompt type in PRO -LOC. Change parameters to fit your computer system. Set Pause at CR to 3; Set Echo speed to 200up. Save parameters. Exit.

3. Getting on line: Turn on modem. At the TX prompt type in T then enter phone number. Modem should dial number. When connected and ready prompt is given hit return twice. Follow directions from system.

4. Commands while on line:
   Cntrl-B: puts you in buffer mode; NEEDED FOR LONG INCOMING TEXT; need to repeat process after each Cntrl-X (cancels speech until next entry) is executed.

   ESC-1: to escape.

   ESC-?: to go to help menu.

5. To download info to disk:

   A. Place data disk in drive. Hit ESC-1. Type REC "filename" (do not include quotations). Continue in program. When all the information you want has been sent, hit ESC 1 to save it. T returns to program.

   B. If you want to save information that has already appeared on the screen: Hit ESC 1 and type in SAVE "filename" (no quotations).

   C. If you want to add information to an already existing file, type in SAVE -append "filename".

6. To access manual on disk: Place disk with manual on it in drive. At TX prompt type-LIST "filename".

7. To print: Information that has been sent to a file may be printed. There is no command to dump while you are on-line.

<u>Exercises</u>: Have student dial into local data bases and use Echo commands to access information.

Objective: To introduce the student to the VersaBraille, as a stand-alone braille reading and braille writing (and storage) device.

Materials: VersaBraille Model C, battery charger, one Maxell UD/XL C-60 Cassette tape, VersaBraille Owner's Manual Volume 1

Procedure:
1. Instruct student in using the following:
   - .plugging / unplugging power cord
   - .turning on power switch
   - .reading braille display
   - .selecting format (space bar and full cell)

2. While tape is being formatted explain the following:
   - .the principle of formatting (manual p.3 "Preparing the Tapes")
   - .location and purpose of VersaBraille keys:
     - .eject (p. 8 Manual)
     - .braille select (p. 5 Manual)
     - .advance bar (p.4 Manual)
     - .back-up (p. 4 Manual)
     - .chapter (p. 4 Manual)
     - .page (p. 4 Manual)
     - .paragraph (p. 4 Manual)
     - .word (p. 4 Manual)
     - .new chapter (p. 5 Manual)

3. After formatting continue with basic writing functions. (pages 5 to 8 Manual)

4. Next, basic reading functions. (pages 9 to 11 Manual)

5. Last instruct the student in editing (pages 13 to 17 Manual)

COMMENTS: To many first time users, the VersaBraille is both exciting and frightening. Some may be intimidated by the number of keys. It is often helpful to ask the student to ignore certain keys and functions, when first introducing the device. For example: Place Indicator key, Random Location function, Audio select, Audio functions.

Evaluation: Assess the student's ability to read and write braille at an adequate speed for system use (compare to keyboard speed and accuracy); identify student's ability to learn and understand command use with this system and provide an overall evaluation on the appropriate use of this system for the student.

.

VERSABRAILLE AS A COMPUTER TERMINAL, Day 7 (optional)

Objective: To provide an opportunity to use the VersaBraille as a
terminal to a Host Computer.

Materials: VersaBraille Model C, Owner's manual 2, Apple
Computer, interface cables (VB cable and Apple adaptor), Serial
Card in Apple and configured correctly, VersaBraille Master
Overlay Tape, Maxell UD/XL C-60 cassette tape, Apple software-
basic games.

Procedure:

1. Set up and store a new overlay, (p.19 Manual)

2. Load overlay tape into VersaBraille.

3. Prepare host computer to communicate. (sections IX, X,
XI)

4. Connect all cables.

5. Open new chapter on blank VersaBraille tape
(formatted).

6. Write, on VersaBraille, chorded R then R.

7. VersaBraille is now a terminal, ready to act as a
braille keyboard.

8. Load DOS into Apple. Type in control-reset.

9. On Apple keyboard type in: PR#1 (IF SERIAL CARD IS IN
SLOT ONE), IN#1 (input-output).

10. Load program in and use VersaBraille to run it.

COMMENTS: The VersaBraille will be receiving (and sending)
computer braille. The individual letters are identical to regular
braille, but punctuation will be very unlike regular braille.
Many students will be able to ignore these odd characters and
still use the VersaBraille terminal. The problem can be lessened,
if the programs used are those with which the student is
familiar. The students will need to know the computer braille
for:
- Return (dot 4 then M)
- Backspace (dot 4 then H) (p. 55 Manual)

Objective: The student will be instructed in this system, as an alternative adaptive device for using large print and word processing.

Materials: Viewscan Text System and the VTS User's Guide.

Procedure:

1. Instruct student to turn on screen and computer. Assist student in determining comfortable text size and speed through use of set-up commands.

2. Instruct student through menus by pushing "RETURN" to advance through options.

3. Instruct student to the editor of the word processor. (entering a "7", then an "E" for edit mode) Student should type in some text.

4. Commands for review and edit:
   .Letters are inserted at cursor, located at right side of display.
   .Letters can be deleted at cursor position, by pushing function key marked "DEL".
   .Letters can be inserted, by using arrow keys to move cursor to desired insert position, then type additional letters.
   .To review, push shifted "HOME" function key. Push PAUSE to begin moving display. (push PAUSE again to stop moving)
   .Push CONTROL and the "U" function key to speed up display, push CONTROL and the "D" function key to slow down display.
   .CONTROL and RIGHT ARROW is word search function.

5. To stop writing, push the function key labeled "q". The "mode?" prompt will appear. Push "p" letter to print (then "m" for built-in printer). Push "s" to save writing to tape. (writing is always saved on 2 internal permanent memory pages). Push "e" to return to EDIT mode.

6. CONTROL X allows student to move from one page in memory, to another. Unshifted "CLR" key erases page in current memory.

7. Push the function key "q" several times to return to VTS Menu. Refer to manual for other menu options.

Evaluation: Identify the possible functional use of this system
by the student: Can they read the display comfortably and do
they find the system easy to learn and use.

Objective: The student will learn to start up the IBM system with the VERT speech synthesizer.

Materials: IBM PC, VERT speech synthesizer, IBM DOS 2.10, VERT software, headphones, Basic games.

Procedure:

1. Introduction to the keyboard. Identify important keys: return, backspace, control, shift.

2. Introduction to disk drives and turn-on procedure for the IBM.

3. Explanation of the VERT synthesizer, control knobs, turn on.

4. Explanation of DOS, the loading procedure of the IBM: DATE, TIME.

5. Instruct student to turn on IBM, load DOS, turn on VERT and load VERT software.

6. Have student load in practice file: TYPE PRACTICE.1

7. Explain how one can review what is presented on the screen by using VERT's review mode. Teach the following commands:

.CONTROL-O to enter review mode
.T to go to top of screen
.A to announce location
.G to read from cursor to end of text
.B to go to bottom of screen
.D,F,S to review words
.C,V,X to review characters
.K,I,, for line review
.H for help key
.Y to read to end of line from cursor
.M,U to read up and down in same column
.#K to move cursor to line #
.S to stop reading

Exercise: Have student review practice file on screen using the above commands.

8. To provide additional practice for student, instruct them in loading in a text-oriented game. Have them play

game for a minimum of one hour using the review commands and these non-review commands:

        CONTROL-T reads current line
        CONTROL-G reads current word
        CONTROL-F reads current letter

<u>Evaluation:</u> Identify the ease or difficulty the student encounters in learning this computer and understanding the speech of the VERT.
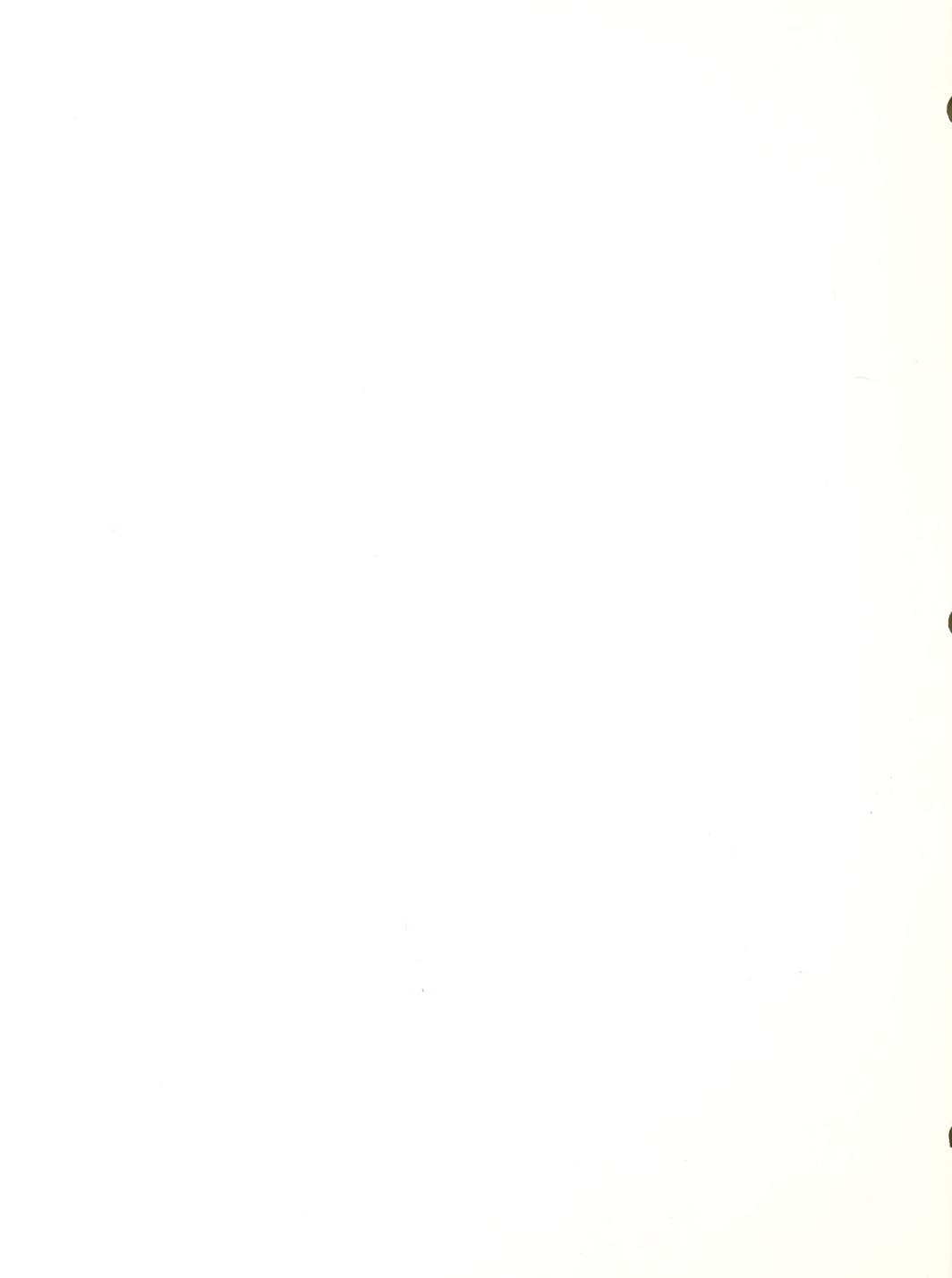
The training course provides instruction in device operation, and use for blind individuals who will be accessing computers on the job or in academic and vocational courses. The course can be designed around the client's application, work setting and learning style.

Referrals: Most of the clients requesting device training are referred and supported by their state agencies. Other clients were referred for training by their employers. A few blind individuals who purchased their own equipment for personal use initiated their own referral process.

Screening: No formal screening is conducted on these applicants. If an applicant is not referred through their state agency or employer, and has not previously attended the Assessment Course, he/she is requested to come in for an informal assessment with the Director to determine training needs.

Prerequisite Skills: All clients must have an identified job or device application to attend the program. The device must be previously chosen and acquired by the agency, employer, or client and the tasks to be completed with the use of the system identified. If any of the devices, software or manuals are not currently owned by the Center, they must be sent 2 weeks prior to training. This is necessary for instructors to familiarize themselves with these materials and create appropriate curriculum materials.

Admission: Acceptance decisions are determined by the Project Director and project Staff. Considerations are made for deadlines the employee faces with starting a new job or leave of absences that must be taken for training. Since there is a higher priority for training over assessment, these clients are scheduled first.

Curriculum: The numerous requests that come in for training on new equipment in the past year forced the staff to acquire the knowledge and create curriculum materials for training on those devices, greatly increasing our body of curriculum materials. Most requests were for the IBM microcomputer with adaptations for speech output or large print display.

Initially we provided most of the training on a one-on-one basis, in one week prior to commencing their job.

We quickly experienced three problems with providing this type of training. First, one week was not sufficient. Many clients were

leaving the program not independent in system use and were frequently calling the Center for assistance. Second, because we were conducting one-on-one training, a large waiting list grew, and we were not able to handle the immediate needs of those individuals who had just been hired and needed training for job placement. Third, one-on-one instruction was too costly.

By the end of our second year, most of the training courses had been extended to two weeks with the exception of VersaBraille training. The more components to a system, the longer the training had to be. For example, all training on IBM usually consists of learning the IBM, learning an adaptive device and learning/using application software. Since VersaBraille only requires the learning of how to use that device, one week was sufficient.

With increased referral for training on similar configurations, we began scheduling 2 and sometimes 3 individuals at the same time. As we continued to introduce applications, the specific use of software on the job made it more reasonable to shift more of this software training to the job site. Training focused more on those components and less on application software. The training on software began to take place at the job site by the employer or Perkins PWI. Training on less popular devices has continued to be taught individually.

<u>The Need For Manuals</u>: A deficit emerged as client's noticed the lack of a good fall-back system for forgotten information. Manuals and the ability to use them for independent trouble shooting are extremely important. Although clients display independence in system use at the end of their training, once they leave, many forget commands. For a sighted user, it is easy to learn to look up solutions and figure out the problem through trial and error. Because the manual is not always available in an accessable form, many of our clients were lost. We began to encourage clients to take notes for themselves in their preferred mode and consistently drilled them in system use. We still knew we could not teach them everything, but felt that they needed to know the important tasks, what the system was capable of doing and where they could obtain that information. It was decided that during our third year we would concentrate on locating manuals in proper form and require that clients obtain them prior to training.

The following courses were given during year two.
.Apple computer with Echo speech
.Apple computer with the VersaBraille
.IBM with the Display Processor
.IBM with the Enhanced PC Talking program
.IBM with VERT speech and QWERTY word processing
.VersaBraille

Rehabilitation Staff Training: Many agencies realized that their
rehabilitation teachers could provide support to clients who had
been   trained,   if they knew the equipment. Also, some out-of-
state agencies had their staffs trained so that they could   train
clients!   These   professionals were referred to the   program   and
trained   with   the   clients.   In addition   to training the staff
person   on   the   device,   they   were able to observe the teaching
process   with a client and were given the opportunity to practice
teaching what they learned.

During the course of the year, rehabilitation staffs were trained
on   the   following devices: IBM with VERT, and the VersaBraille.
In addition, special training sessions   were   held   at the Center
for   staffs   and   invited   guests.   One   was   in   the use of   the
Viewscan Text System and the other   was instruction on the use of
the VERT with an emulator program on the IBM.

Cooperation with Agencies: Much of the success of   the   Computer
Access Program must be attributed   not   only   to the hard work of
the   staff, but to the great cooperation with state agencies   and
their counselors and the business community.

The successful placement of our graduates is   attributed   to   the
unique   collaboration between our program and Perkins School   for
the   Blind's   Project   with   Industry. In   the   state   of
Massachusetts, the Commission for the Blind   has   played   a major
role in providing the Center with referrals, loan of devices   and
manpower.   The liaison between our two agencies has been strong.

The Project Director has also developed contacts   with counselors
and   supervisors   in   the   surrounding states that have   referred
clients to the program.   These have been a major influence in the
increase of clients from states other than Massachusetts.   States
that   we   have worked with are: Connecticut, New Hampshire,   New
Jersey, New York, Maine, Massachusetts,   Rhode Island, Tennessee,
Texas, Vermont, and Wisconsin.

The   collaboration of the Computer Program and   Perkins' Project
with Industry is unique in the field of blindness.   Both programs
are   federally   funded   and, in anticipation of possible   funding
loss,   we   are forming a collaboration of services to market   our
training package to the business community.

THE APPLE IIe COMPUTER AND ECHO SPEECH LESSON PLAN

Objective: The student will learn how to operate the Apple IIe Computer with speech for word processing, data entry, communications, and simple programming.

Materials: Apple IIe computer with two disk drives, installed Echo speech synthesizer, "Apple Presents Apple" Software, Textalker speech program, Sec Demo program, Talking Writer Typing Game, Adventure Game (Dungeons of the Gods), Harvey Lauer's training disk (available from Raised Dot Computing), BRAILLE-EDIT program disk, BRAILLE-EDIT USERS MANUAL, Data Disk, blank disks, Apple System Master disk, DOS disk, Basic games, and headphones.

Prerequisite: Ability to touch type.

Procedure and Exercises:

A.   **Apple/Echo Introduction:**

1. Discussion of computer components, keyboard and proper handling of disks. Practice in the following: inserting disk, turning computer power on.

2. If sighted reader is available, load "Apple Presents Apple" and complete tutorial with student by reading the screen, but have the student utilize the keyboard.

3. Introduction to speech: Have student load Sec Demo program, listen to tutorial and type in words for the computer to echo. Show the student how words can sound like they should by typing them in separate syllables: (cre ate) or how one can respell a word: (by nairy for binary).

4. Practice with keyboard: Load in the Typing Game from Talking Writer. Have student practice all the keys and play the game at the end until 80% accuracy is obtained.

5. Practice with speech: Load in Textalker. **Exercise 1:** Have student work with spelling test program on this disk or an enhanced version of the spelling program. **Exercise 2:** Load in adventure game. Have student play game for a minimum of 2 hours. It is important to stress to students that speech comprehension can be initially frustrating, but with practice, most all students do reach a good comprehension level.

6. Apple-speech tutorial: Load in the Lauer training disk and have student listen to the various segments related to speech with the Apple IIe. (This can be

overwhelming for some students and may be listened to over a period of days.)

Evaluation: During these lessons you will observe the student's keyboard skills—independence, speed and accuracy; the student's ability to understand the speech; the student's ability to quickly learn and remember command sequences.

B. Word Processing with Braille-Edit:

1. Getting started: Insert BOOT disk in drive 1 and data disk in drive 2, turn computer on, enter E2 for speech configuration. At Start-up menu turn disk over or put in Main disk and hit space bar.

2. Entering text: At Main menu enter "E" (for editor), type in a chapter name and hit return. When blank screen appears, ask student to begin writing. Remind them, that they only need to strike return when beginning a paragraph. Further, explain that they need not correct errors, because word processing allows them to correct after initial typing.

3. Reviewing text: Instruct the student in the following commands to review what was typed:
            CONTROL G - reads forward word-by-word
            CONTROL R - reads back word-by-word
            CONTROL Z, space bar - to zip to the beginning of
            the document
            CONTROL A, space bar - to advance to end of
            document
            CONTROL A, a #, space bar to advance cursor to
            specific character # in text
            CONTROL W, speaks current cursor position
            CONTROL Y, speaks next 50 character, cursor does
            not move
            CONTROL O, speaks and advances cursor about 520
            characters
            CONTROL T, speaks and moves cursor 50 characters
            Arrow keys (left and right) - to read letter by
            letter

4. Editing text: The concept of inserting, deleting and typing over text is usually foreign to the new user. So these concepts MUST be explained before editing the text. We suggest examples be completed with the instructor.
            CONTROL D, space bar - to delete a letter
            CONTROL D, CONTROL W - to delete a word
            CONTROL I - to insert, CONTROL N to end insert
            CONTROL Q - to save chapter

Typing over letters

5. Formatting Text: Discuss the use of embedded format commands to "tell" the print how the text is to appear on the page. Review the various commands from the manual and instruct the student on the proper insertion of these commands.

6. Printing Text: Discuss the Print command from the Main Menu and how to set the parameters from the print option as well as from the configuration menu.

7. Review all the other menu options from the Main Menu and Second Menu. Student can explore those independently.

Exercises: Have student create 3 documents:

.A first document where the student chooses his subject.
.A document with embedded formatting.
.A business letter (It is helpful to have the student write this from a dictated tape.)

Print the last two.

Evaluation: Evaluate student's ability to learn and perform word processing; ability to write (spelling, grammer, clerical skills); ability to learn a program and perform the simple tasks independently; ability to identify and correct errors.

C. Textalker Review Mode:

1. Load the Textalker program.

2. Fill the monitor screen with text. (either by running a text-oriented program or a simple BASIC program)

3. Ask student to press the CONTROL key and L together.

4. Ask student to press the letter A. (to begin at top of screen - line A) Explain the following keys:
     .Control L - to enter review
     .T - toggles between letter-by-letter and word-by-word reading
     .Left arrow - read letter to the left
     .Right arrow - read letter to the right
     .Semicolon - moves up one line
     .Backslash - moves down one line
     .Return - the reader key, reads selected line

.Esc - exit review mode

5. Have student practice use of keys to review screen with various text oriented programs.

Evaluation: Ability to understand speech, learn commands, move a cursor around on the screen and keep track of where it is in relation to the screen.

D. Apple Operations:

1. DOS: Instruct the student in the following DOS Commands:
> Catalog: identify all the parts of the catalog as it appears on the screen.
>
> Initializing Disks: Discuss the use of disks, their need to be formatted, and how to initialize new disks (INIT HELLO).
>
> Delete: Deleting and "cleaning" up your disks.
>
> Diskcopy: How to copy disks: Warning-all information previously on disk is erased.

2. Instruct student on how to restart a system from the keyboard: CONTROL-OPEN APPLE-RESET.

3. Open Apple: Instruct student on opening up of the computer to gain access to expansion slots.

> a. Discuss the following internal components of the computer: Power Supply, ROM chips, RAM chips, auxiliary slot, game port, expansion slots-their numbers, and where each peripheral card goes, and keyboard cable.
>
> b. Discuss the external parts: Power cord socket, video jack, cassette jacks, and power switch.
>
> c. Instruct student in the proper way to handle, insert and remove peripheral cards into expansion slots.

4. Discuss proper use and maintenance of computer and peripherals components.

Exercise: Student should re-assemble and install an un-assembled

system independently and be able to identify simple problems that
cause a system not to function.

E.   Use of Basic Programs:

1.   Instruct the student in the following:

.LOAD
.RUN
.SAVE
.LIST

Have student practice the use of the above by loading in
basic programs previously written.
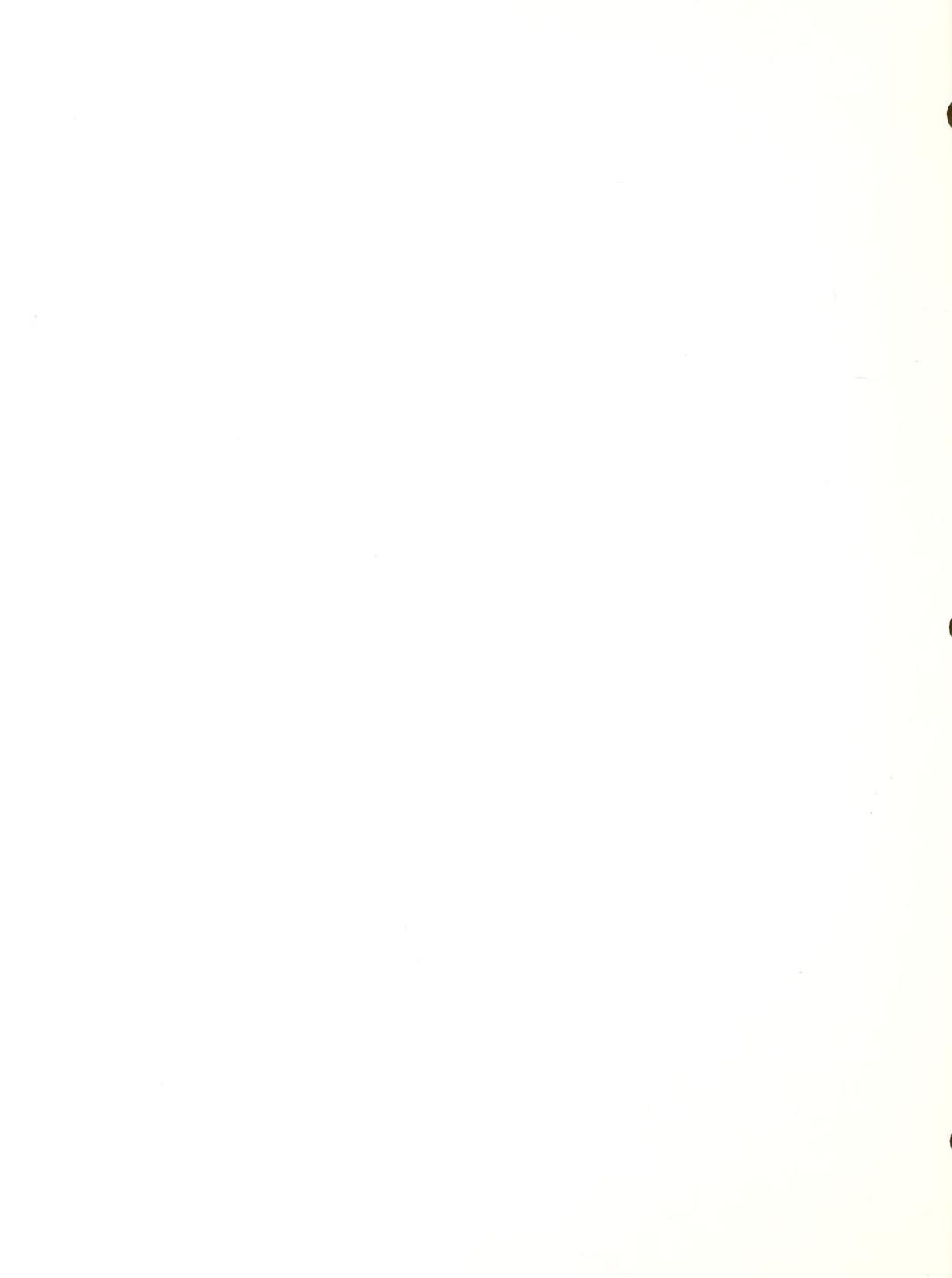
APPLE-ECHO EVALUATION

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Key
1 = Student is very knowledgeable and independent
2 = Student requires verbal assistance
3 = Student requires hands-on assistance

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Apple with Echo

1. Can identify keyboard
2. Can identify disk drive   __
3. Can identify disks   __
4. Can load disks   __
5. Can understand speech   __
6. Can adjust speech   __
7. Can run programs
8. Can format disks   __
9. Can copy disks   __
10. Understands concept of basic programming   __

Braille-Edit

1. Can boot program   __
2. Can set up configuration   __
3. Can boot main program   __
4. Can write text
         enter text   __
         delete text   __
         insert text   __
         search for text   __
5. Insert imbedded commands   __
6. Print to ink   __
7. Translate to braille   __
8. Print to braille   __

Comments

Objective: The student will learn to interface the VersaBraille with an Apple Computer.

Materials: VersaBraille model C, Owner's manual 2, Apple Computer, interface cables (VB cable and Apple adaptor), Serial Card installed in Apple and configured correctly*, VersaBraille Master Overlay Tape, Maxell UD/XL C-60 cassette tape, Apple IIe system, Apple DOS, and Apple software-basic games.

Prerequisites: Completion of Apple and VersaBraille Lesson Plans.

Procedure and Exercises:

1. Set up and store a new overlay, (p.19 Manual)

2. Load overlay tape into VersaBraille.

3. Prepare Host Computer to communicate. (sections IX, X, XI)

4. Connect all cables.

5. Open new chapter on blank VersaBraille tape (formatted).

6. Write, on VersaBraille, chorded R then R.

7. VersaBraille is now a terminal, ready to act as a braille keyboard.

8. Load DOS into Apple. Type Control-Reset.

9. On Apple keyboard type in: PR#1 (IF SERIAL CARD IS IN SLOT ONE), IN#1 (input-output).

10. Load program in and use VersaBraille to run it.

COMMENTS: The VersaBraille will be receiving (and sending) computer braille. The individual letters are identical to regular braille, but punctuation will be very unlike regular braille. Many students will be able to ignore these odd characters and still use the VersaBraille terminal. The problem can be lessened if the programs used are those with which the student is familiar. The students will need to know the computer braille for:
- Return (dot 4 then M)
- Backspace (dot 4 then H) (p. 55 Manual)

VERSABRAILLE/APPLE EVALUATION

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Key
1 = Student is very knowledgeable and independent
2 = Student requires verbal assistance
3 = Student requires hands-on assistance

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Interfacing

1. Can attach cables   _

2. Can hook up all components   _

3. Upload and download from VB to Apple _

Overlays

1. Student can accurately discuss purpose of overlay _

2. Can create a Versabraille overlay   _

3. Can load overlays   _

3. Can prepare the Versabraille for communication   _

4. Can use computer Braille   _

5. Can access and run programs from the
                  Versabraille terminal   _

Comments:

Objective: The student will learn to start up the IBM system with DOS, use disks and practice various DOS commands important in the use of the IBM computer.

Materials: IBM PC, MS DOS disk version 2.10, blank disks, DOS Reference Manual, Running MS DOS, Basic Games disk, and a sample disk for orienting student to disk parts and correct handling.

Procedure and Exercises:

1. Introduction to the IBM Keyboard. Type alphabet, type punctuation, use control with keys, use shift with keys, show TAB, ESC, ALT, use RETURN, BACKSPACE and briefly explain function keys, cursor keys, INS, and DEL.

2. Introduction and explanation of disks: What they are, how they are handled, how to insert into disk drive and the different types (single vs double-sided or density). Have student handle a sample disk, and explain all the openings on the sleeve to assist in identifying how to insert a disk.

3. Explanation of DOS: What it is, why it is needed. (Analogy: Hardware is the musicians, Software is the sheet music and DOS is the conductor. Without DOS nothing happens.) It is very important that the student learn to differentiate all the components of a system.

4. Instruction and practice of the following DOS commands:

    .A prompt—what it means.

    .DATE, TIME—what they are and how they are used in software.

    .DIR, DIR/P, DIR/W, DIR filename, DIR Wildcard, DIR volume. Explain components of the Directory on the screen and what each stands for: filename, extension, bytes, date, time.

    .CLS

    .COPY filename b:, COPY filename a:, COPY *.*, Copy with wildcard.

    .ERASE filename, ERASE with wildcard.

.DISKCOPY A: B: (must have DOS disk in drive)

.DISKCOMP A: B: (must have DOS disk in drive)

.FORMAT B: (explain why it is neccessary to format new disks)

.FORMAT/S/V B:

.TYPE command

.MORE command

.RENAME filename.ext   filename.ext

.CHKDSK

.COPY filename PRN

.COMP

.SORT

5. Instruct student in use of keyboard commands:

.PRINT SCREEN KEY

.CONTROL C

6. Instruct and provide practice for the use of wildcards with COPY, DIR, and ERASE.

7. Instruct and provide practice for switching between DOS and the BASICA language. Have student play with some text-oriented basic games.

8. Instruct and provide practice for switching between disk drives: From A: to B: and back.

9. Have student create a data disk with DOS commands:

.Insert DOS in drive A, a blank disk in drive B
.FORMAT/S/V B:
.COPY COMMAND.COM B:
.COPY DISKCOPY.COM B:
.COPY MORE.COM B:
.COPY FORMAT.COM B:

10. Have student create an AUTOEXEC.BAT file on their disk. For example: COPY CON:AUTOEXEC.BAT

```
            VERT
            QWERTY
            CNTRL-Z and return
```

<u>Resources</u>: <u>IBM</u> <u>DOS</u> <u>Reference</u> <u>Manual,</u> <u>Version</u> <u>2.10,</u> Available from
IBM in print, and Recordings for the Blind on tape.

Wolverton, Van. <u>Running</u> <u>MS</u> <u>DOS,</u> Microsoft Press, Washington,
1984.

° IBM EVALUATION

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Key
1 = Student is independent
2 = Student requires verbal assistance
3 = Student requires hands-on assistance

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

 IBM PC Introduction

1. Can use keyboard accurately   _

2. Can use disk drives   _

3. Can load DOS   _

4. Can power up system   _

 IBM PC DOS

1. Can use format commands   _

2. Can use the DIR commands   _

3. Can use COPY commands   _

4. Can use the ERASE command   _

5. Can use DISKCOPY command   _

6. Can use TYPE and MORE commands   _

7. Can RENAME files   _

8. Can switch drives   _

9. Can produce backup copies of disks   _

10. Can set up data disks   _

11. Can set up an autoexec file   _

 Comments:

ENHANCED PC TALKING PROGRAM LESSON

Objective: The student will learn the commands for using this speech access program on the IBM with application software.

Materials: IBM PC, DOS 2.10, Enhanced PC Talking Program disk and manual, Votrax Type n' Talk or DECtalk, headphones, a text-based basic program, and application software.

Prerequisites: Completion of MS DOS lesson plan.

Procedure and Exercises:

1. Identify all components of the Votrax, including cabling to the IBM, power supply, and speaker or headphone plug. Explain controls or volume, and pitch.

2. Student should load DOS, then load the program (talk).

3. Load some text onto the screen. Instruct the student in the use of Alt and function keys 1 through 5 to adjust the pronunciation of text on the screen. The student should experiment in changing parameters of the output and be comfortable and confident in using them.

4. Load basic program. Using keys learned in #4, student will complete game and receive further practice in the commands. If necessary, student should tape or braille commands for personal reference.

5. Instruct student in use of review keys–Alt F6 through F10. Student should play a game using these new commands for practice of the review mode.

6. Enhanced functions: Alt F10, 1-0. Explain the use of these keys and instruct student to explore these functions when reviewing text on the screen.

7. Alternative Command Mode: (use of the grave accent key with the number keys) Explain how alternative keys can be set, if the function keys are used by the application program and interfere with the speech commands.

8. Roaming Reader: (Alt minus key) Instruct student in use of numeric key pad to move cursor around on the screen and review text. Student should practice with text on the screen.

9. Student should spend a considerable amount of time using the program with the selected application program. It is recommended that an autoexec.bat file be constructed so that DOS, speech and the application program all load in together.

ENHANCED PC TALKING PROGRAM EVALUATION

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Key
1 = Student is independent
2 = Student requires verbal assistance
3 = Student requires hands-on assistance

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Votrax speech synthesizer:

1. Can use front panel (volume & pitch)   _

2. Can use rear panel (power on/off)   _

3. Can attach serial cable   _

PC Talking Program:

1. Can use screen review keys/commands   _

2. Can change Verbal Options as needed   _

3. Can review letter-by-letter   _

4. Can review word-by-word   _

5. Can review line-by-line   _

6. Can review entire page   _

Comments:

Objective: The student will use this large print device for accessing information in the computer.

Materials: IBM PC, installed DP-11, monitor, and appropriate software.

Procedure and exercises:

1. Physical characteristics of DP-11 components
   A. Monitor and Front Panel
   B. Control Pad and Joy Stick
   C. On/Off

2. Expanded discussion of Control Pad and its functions
   A. Orientation to Control Pad buttons
      1. Image Controls
         a) X1/Enlarged
         b) Size
         c) Pos/Neg
         d) Line Marker

Exercise: Have the student turn on machine independently. Using control pad functions, have student locate comfortable size, contrast, image polarity, and focal distance from screen.

      2. Joystick control
         a) Vertical and horizontal movement
         b) Left and right movement

      3. Reading Mode Controls
      a) Cursor   e) Tab Forward/Back
      b) Continuous/Line   f) Review/Pause
      c) Home   g) Resume
      d) Tab Set/Reset and Clear   h) Next Line

Exercise: Have student read through text, experimenting with various control functions.

3. Window parameters using line markers
   A. Setting windows
   B. Advantages of this feature
   C. Limitations of this feature

Exercise: Have student set a one-line marker, a two-line marker and a half-page marker to read text.

4. Skimming Material along Margins
     A. Left margin
     B. Right margin
     C. Columns

Exercise: Have student skim through reading material looking for specific data.

5. * With Voyager Model
     A. Expanded discussion of Movable Viewing Table & Joystick
          1. Demonstrate movement (up, down, left, right)
          2. Discuss friction brake and margin stops
          3. Discuss efficient reading techniques (including problems encountered with curved spine area of book)

Exercise: Have student practice reading 2 or 3 pages of material utilizing all previously learned skills.

*The Voyager is an extra component; it is not part of the DP 11 system.

Installation of DP-11 to IBM PC/XT

Materials: IBM PC/XT, Color Graphics card, DP-11 monitor and processor, DP-11 interface card, Control pad, and screwdriver.

Procedure:
1. Unplug IBM PC from wall outlet.
2. Unplug all cables from IBM.
3. Unscrew back of IBM and remove cover.
4. If a color graphics card is not already installed into the computer, install card (note: the color graphics card is needed to get 1x magnification on your Vtek magnification).

Set switch settings in mother board of IBM to COLOR mode
switch #1: #5 on, #6 off
switch #2: #6 off, #7 off, #8 off
5. Install DP-11 Interface Card in any open slot. Slide switch to COLOR.
6. Close the IBM computer.
7. Connect large ribbon cable to Interface card and to Processor.
8. Connect monitor cable from Color Graphics card port to Processor-- VIDEO IN.
9. Plug in monitor.
10. Connect cable from Control pad to Processor.
11. Plug in Processor.

Exercise: Have student turn on processor. Boot up DOS. If no display, check the following:
a) cable connections
b) switch settings on mother board
c) secure positioning of cards in slots.

DP 11 EVALUATION

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Key
1 = Student is independent
2 = Student requires verbal assistance
3 = Student requires hands-on assistance

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Large Print Display User Control Panel

1. Can use magnification knob   ___
2. Can use screen movement joystick   ___
3. Can use enlargement switch   ___
4. Can use CONT/LINE switch   ___
5. Can use POS/NEG switch   ___
6. Can use line markers   ___
7. Can set and use TABS   ___
8. Can use CURSOR button   ___
9. Can use HOME button   ___
10. Can use REVIEW button   ___
11. Can use RESUME button   ___
12. Can use next line button   ___
13. Can set up system   ___

Text files and Data Entry

1. Can read text on screen   ___
2. Can read columns of text   ___
3. Can edit text on screen   ___
4. Can complete form fill-ins   ___

Voyager system:

1. Can use as separate device   ___
2. Can read as split screen with DP11   ___
3. Can enter info read from Voyager to PC   ___
4. Can setup system   ___

Comments:

Objective: The student will learn to utilize the PC VERT synthesizer and VERT software on the IBM PC with application software.

Materials: IBM PC, installed PC VERT synthesizer, PC VERT software, VERT Manual, headphones, DOS 2.10 disk, data disks, Word processing program (PC WRITE), and hard braille copy of the columns file on VERT disk.

Prerequisite: Completion of lessons 1, 2, and 3 of MS DOS Lesson Plan. Reading of VERT manual.

Procedure and Exercises:

1. Explain physical features of the synthesizer: on/off, cable ports, volume, speed, tone, help-baud rate.

2. Place DOS in drive A, VERT in drive B. Turn on PC, then Synthesizer.

3. After DATE and TIME, have student type: b: VERT.

4. Type: TYPE PRACTICE.1

5. REVIEW MODE: With the practice file on the screen, instruct and have the student practice reviewing the text with the following review commands:

> .CONTROL-O to enter review mode.
> .T to go to top of screen.
> .A to announce location.
> .G to start reading
> .S to stop reading
> .D,F,S for word review
> .C,V,X for character review
> .K,I,, for line review
> .H key followed by another key
> .Y to read to end of line from cursor
> .M,U to read up and down in same column
> .#K to move cursor to line #
> .HELP button

SEARCH command: CONTROL-O, T (to go to top of field as a search is always forward), / and search string and RETURN to execute.

Place Markers:

.Have text on screen.
                    .Enter review mode-Control O.
                    .Move cursor to word to the place marker.
                    .Type 1P (first place marker).
For other place makers do the same, only save them as 2P,
3P, etc. up to 100.

To find a place marker, type in 1Q, 2Q, 3Q, etc.

Practice of Review mode: Instruct student to load in a
word processor and get into edit mode. Have student type
in   2   paragraphs, without   correcting   errors.   Once
complete, have student review document and instruct
student in the use of the semicolon (;) to bring the
writing cursor up to the review cursor. Also stress the
use of Control-F, Control-T and Control-G for review
outside of review mode. (Please note that the concept of
editing work with insert and delete is a very difficult
concept for most people to comprehend. Make sure this is
explained and demonstrated thoroughly before completing
this exercise. The two cursor concept is also difficult
. Explain and demonstrate.)

5. Columns:

Marking:
            .Have student load COLUMNS from VERT disk.
            .Using braille copy identify top and bottom of a
            column-upper left and lower right.
            .Enter review mode.
            .Goto top of screen.
            .Move cursor to top left of first column.
            .Type 1T to mark top; continue to mark next 5
            tops-2T, 3T, 4T, 5T.
            .Move cursor to bottom right of first column.
            .Type 1B to mark bottom; continue to mark next 5
            bottoms-2B, 3B, 4B, 5B.
            .Lock column overlays by typing in L1, L2, etc.

Reviewing Columns:
            .In review mode, type in 1E for current column.
            .R moves to the right column.
            .W moves back a column.
            .M,U to move down and up in column.

Erasing Column Overlays:
            O will erase a column overlay. To recall them
            type in: 1O, 2O, etc.

6. Verbal options Menu: Review all options in this menu

and explain how they can be used (refer to manual for specifics).

7. Dictionary:

> .Explain use of Dictionary.
> .Enter Dictionary mode (CNTRL-O, CNTRL-D).
> .Add enteries to Dictionary. Choose words to enter (Use Column file on screen and change word pronounciation for states).
> .Exit-CNTRL-E.
> .RETURN to listen to entries.
> .Turn dictionary on in VERBAL Options menu.
> .Review words on screen-can they tell a difference?

8. Hot Keys: Enter Verbal Options menu; select appropriate options; assign one of the following to the option: &, *, (,). When all options have been chosen, have student practice use of hot keys with text on screen.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Key
1 = Student is independent
2 = Student requires verbal assistance
3 = Student requires hands-on assistance

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Professional VERT speech synthesizer

1. Can use front panel   _

2. Can use rear panel   _

3. Can use screen review keys/commands   _

4. Can access Verbal Options Menu   _

5. Can change Verbal Options as needed   _

6. Can accurately comprehend speech   _

7. Can utilize dictionary   _

8. Can set and use Hot keys   _

9. Can set markers with VERT   _

10. Can use cursor route function   _

COMMENTS:

(VERT) QWERTY WORD PROCESSOR LESSON PLAN

Objective: The student will learn how to word process using the QWERTY word processor with the VERT speech synthesizer.

Materials: IBM PC, VERT speech synthesizer, VERT software, QWERTY software, QWERTY manual (VERT version-available from TSI), Data disk, and Model blocks.

Prerequisites: Completion of VERT and MS DOS lesson plans.

Procedure and Exercises:

1. Review terms used for word processing: enter, edit, insert, typeover, delete. Use maniulatives (such as Model blocks in a rubber band) for explaining the latter 3 terms.

2. Instruct student in loading of QWERTY: DOS, VERT, QWERTY or use an autoexec.bat file created in MS DOS lesson that will execute DOS, VERT and QWERTY.

3. Review QWERTY's main menu: Use of space bar to go through options, return to execute option, Control-T to review option.

4. CREATE option:
   A. Have student enter this option to begin writing of text. Make sure student identifies that the CAPS LOCK key is off (QWERTY will announce) and instruct student not to use the DELETE key. Student should not edit text while typing.

   B. To Review text: Use up arrow key to move to top of document (will chirp).
   .F1 to read back a character.
   .Shift F1 reads current character.
   .F2 to read forward a character.
   .F3 to read back a word.
   .Shift F3 reads current word.
   .F4 to read forward a word.
   .F5 to read back a line.
   .Shift F5 reads current line.
   .F6 to read forward a line.
   .F9 to search backward.
   .F10 to search forward.

   C. To Edit text*:
   .Backspace key while typing.

.Shifted F2 deletes one character at cursor.
.Shifted F4 deletes one word at cursor.
.Shifted F6 deletes one line.
.Shifted F9 to search and replace backward.
.Shifted F10 to search and replace forward.
.Type Over Mode

*Should student desire to review and edit work using the
review mode of VERT, the margin must be changed to match
that of QWERTYs. While in review mode, type 11½.

D. To Save Text: Use DEL key when finished and
give document a name. (If saving on data disk in
drive b, specifiy b: before document name or
switch drives from LIST option in main menu).

5. CHANGE option: Used to load in a file from the disk
(name must be given) or go back to text in memory (no
name is given).

6. PRINT option: Use SHIFT RETURN to change print
parameters.

7. LIST option: Use to list directory of disk and
change default from from A to B or vice versa.

QWERTY EVALUATION

QWERTY
1. Can load program   __

2. Can access menus   __

3. Can use program to write   __

4. Can review screen to read   __

5. Can delete letters/words/lines   __

6. Can insert letters/words/lines   __

7. Can produce simple print copies   __

8. Can use Search and Replace   __

9. Can underline   __

10. Can center words   __

11. Can use cut and paste   __

12. Can change format line   __

COMMENTS:

VERSABRAILLE LESSON PLAN

Objective: The student will learn to use the VersaBraille as a stand alone unit for word processing.

Materials: VersaBraille, VersaBraille manual (Vol. 1 and 2), overlay tape, and blank tapes.

Procedure and Exercises:

1. General characteristics:
   A. Discuss the shape and weight of the machine.
   B. Introduce student to the ports and cables and the battery charger.
   C. Orient student to the location and function of the keys. (It may be helpful to group the keys into smaller sections for instructional purposes)
   D. Introduce tactile reference chart on cover of Versabraille.

2. Formatting:
   A. Power On.
   B. Discuss tape formatting - why and how (chorded 123456).

Exercise: Have student proceed with formatting command to prepare new cassette. While cassette is being formatted, have student identify each key and its function.

3. Reading (Discuss each of the following):
   A. Using the advance bar.
   B. Using the index to determine contents of a tape.
   C. Moving into a chapter.
   D. Reading forward and backward in a chapter.
   E. Moving to the next page.
   F. Special Move Commands:
      1. Top of Page
      2. Word by Word
      3. Paragraph by paragraph
      4. Page by page

Exercise: Reading of several stories from the Versabraille Sample Tape. This should be done independently by the student.

4. Basic Writing Functions:
   A. Introduce and discuss concept of the cursor (full cell).
   B. Review keyboard with particular attention to

the braille keys. Discuss how to move cursor to
right and left.
C. Introduce Paragraph symbol (chorded dot 4).
D. Discuss how to save work while continuing to
write and why this is necessary.
E. Discuss how to prepare a Table of Contents and
how to reserve blank pages for future use.
F. Discuss use of the eject key.

Exercise: Have student set up a Table of Contents with
the following format: (3 chapters total)
    .Chapter 1 should reserve 2 pages
    .Chapter 2 should reserve 3 pages
    .Chapter 3 should reserve 1 page

Have student write creatively, filling previous Table of
Contents.

5. Editing Techniques:
A. Review Top of Page command and cursor movement
to the left and right (chorded 2 ¼--, chorded 1 -
-½).
B. Discuss overwriting and correct placement of
cursor).
C. Cursor on/off (chorded 5).
D. Explain insertion - where it takes place and
what happens to previous material.
E. Demonstrate insert chord (chorded dot 6) and
instruct that cursor must be placed to left of
space where insertion will occur.
F. Explain deletion - how it takes place and what
happens to previous material.
G. Demonstrate delete chord (chorded dot 3) and
instruct that cursor must be placed directly on
material to be deleted.
H. Discuss all other delete functions: deleting
words, deleting paragraphs, deleting chapters,
deleting in the index.

Exercise: Have student independently edit previously
written material.

6. Advanced Techniques in Searching
A. Random chapter location (chapter key, write
chapter name, advance bar).
B. Random word or phrase location (word key,
write word or phrase, advance bar).
C. Random page location (page key, write page,
advance bar).

7. Advanced Techniques in Writing:

A. Deleting portions of a page.
B. Discuss and use Single Cell Command Chords
(substitute for regular VB keys) ALL chorded (
with space bar):

    1. - B - back line key
    2. - E - eject key
    3. - F - advance line (forward)
    4. - H - chapter key
    5. - I - paragraph key
    6. - L - lower case shift
    7. - N - new chapter key
    8. - P - page key
    9. - T - select braille key (tactile)
    10. - U - upper case shift
    11. - V - select audio key (voice)
    12. - W - word key

VERSABRAILLE EVALUATION

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Key
1 = Student is very knowledgeable and independent
2 = Student requires verbal assistance
3 = Student requires hands-on assistance

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Stand alone word processing

1. Can format a tape   _

2. Can write in Grade II braille   _

3. Can read Grade II braille   _

4. Can edit a file (insert/delete/cursor movement)   _

5. Can save a file   _

6. Can create a table of contents   _

7. Can retrieve files   _

8. Can use all function keys   _

Interfacing

1. Can attach cables
     (Printer-serial VersaBraille-parallel)   _

2. Can hook up all components   _

Overlays

1. Student can accurately discuss purpose of overlay _

2. Can create a Versabraille overlay   _

Comments

Objective: The student will learn the use of this system for accessing data, entering data and printing text.

Materials: VersaBraille, Ampro computer unit, Printer, cables, Power source, VERSATEXT program disk, VERSATEXT data disk and open disk to handle.

Prerequisites: Knowledge and use of a VersaBraille.

Procedure and Exercises:

1. Physical characteristics of each component
   A. VersaBraille: on/off switch, input/output port.

   B. Ampro computer unit: disk drive/s, button/s to secure disk/s, eject mechanism on drive/s, input/output port for VersaBraille, serial port for printer.

   C. Printer: printing mechanism, ribbon, function buttons, on/off switch, dip switches, serial port for Ampro cable.

   D. Cables: Versabraille to Ampro, Ampro to Printer, Discuss male pin configurations, female pin configurations.

   Exercise: Hook up the three components with the appropriate cables.

2. Introduction to Software on Disks:
   A. What is software?
   B. How is information stored on a disk? Discuss formatting and compare and contrast to cassette tape.
   C. Allow student to explore the sample disk that has been cut away to expose inner disk.
   D. Discussion of care and protection of disks.

3. Discussion of Disk Drives: function of disk drives, and how software is loaded and secured in Ampro.

   Exercise: Have student listen to B.A.U.D. cassette issue #4: expanded discussion of disk drives.

4. Overlays:
   A. Purpose

B. Creating a VERSATEXT overlay: Use Terminal Overlay from VersaBraille Master Overlay tape; Create VT overlay by changing the control parameters; Introduce R chord E and R chord S to begin and end control parameter changes.

5. Powering up the System and Calling up the Program:
A. Introduce loading procedure and sign-on message
B. Introduce A prompt and utility menu prompt
C. Enter EDIT mode

6. EDIT mode commands
A. Cursor movement commands and writing
B. Modifying text
C. Recovery
D. Closing the file
E. Summarize all EDIT commands (about 25)

Exercise: The student will independently edit the sample braille chapter provided.

7. Added features
A. HELP menu
B. Scrolling text
C. Delete Function
D. Status Line
E. Find and Replace
F. Block Manipulation

Exercise: The student will complete the exercises provided at the end of chapters 6 and 7. The instructor will take the time necessary to review these features well as they are somewhat complicated and lengthy to summarize.

8. TEXT ENTRY mode
A. Writing in Grade II braille and returning to EDIT mode
B. Saving the file
C. Backup files

Exercise: The student will write and edit his/her own chapter and save it. Have the student explain the difference between .BRL, .WRK and .BAK files.

9. Processing files
A. The Back Translator
B. The "Do Not Translate" command
C. The .TRN file
D. Titles, Underlining, and Paragraphs

E. The .PRN file
F. Computer braille

Exercise: The student will process his file from beginning to end.

VERSATEXT EVALUATION

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Key
1 = Student is very knowledgeable and independent
2 = Student requires verbal assistance
3 = Student requires hands-on assistance

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Stand alone Versatext Use

1. Can format a tape   _
2. Can write in Grade II braille   _
3. Can read Grade II braille   _
4. Can create an overlay   _
5. Can save an overlay   _
6. Can retrieve files   _
7. Can use all function keys
     and chorded key substitutes   _

Interfacing

1. Can attach cables   _
     (Ampro-serial Versabraille-parallel)
2. Can hook up all components   _

System Set Up

1. Can load overlays   _
2. Can prepare the Versabraille for communication   _
3. Can insert disks properly   _
4. Can access and run the Versatext program   _
5. Can use relevant Versatext menus   _

Text Retrieval

1. Can retreive files   _
2. Can Quit/Exit a file   _

Nondocument functions:

1. Can create form templates   _
2. Can fill-in form templates   _
3. Can print forms   _

Cursor Movement:

1. Can move line by line   _
2. Can move segment by segment   _
3. Can move to end & beginning   _
4. Can move title by title   _
5. Can move letter by letter   _

Versatext Options

1. Can use Auto Scroll option   _
2. Can use Status option   _
3. Can use Place Markers option   _
4. Can use Search option   _
5. Can use file directory   _

Comments

<u>Classroom Set-up</u>: While the Apple Computers, the Maryland Computer System and the DEC Rainbow were used our first year, students primarily utilized Apple and IBM computers with adaptive devices in speech, braille and enlarged screen image during the second year.

As the IBM personal computers became more popular in office settings, we adjusted our program to provide more exposure to and assessment of that system with adaptive devices and software. By the end of the year, we noted a fully integrated system such as the Maryland Computer System, while providing the benefit of such integration, commanded no market use. With the increased use of microcomputers in business, the isolated systems for the blind were becoming obsolete and we decided not to instruct individuals on them. Mainstream systems were gaining in popularity. The wider use of electronic communication made it more important for blind co-workers to be working on similar machines so they can profit from general data bases and gain access to written materials and written communication at the same level as their sighted coworkers.

<u>Acquisition</u>: During the second year many new devices and software appeared on the market that were designed for or accessible by a blind computer user. Educators in the field of Vision became interested in computers and pushed vendors to add speech to their programs for the Apple. As the IBM personal computers grew rapidly in small businesses, more and more developers wrote speech software for this system. And as the technology for better speech developed, there appeared synthesizers with "human-like" speech.

We realized that we needed to acquire some of these devices. Through information gathered from users, other centers, "experts" in the field and agencies we were able to identify those systems that were most popular and effective. We purchased many of the adaptive devices, but since our budget for the second year was small, we also solicited the donation of computers from manufacturers and individuals. Many manufacturers of adaptive hardware were reluctant to donate access devices, but began giving discounts to agencies who purchased new devices before a specific date. Some software vendors were more willing to donate or loan packages to the program. IBM was the only computer manufacturer to loan computers, although Digital gave 50% donations on equipment purchased. Through our local computer user groups we also solicited individuals who donated Apple computers and peripherals.

At various times during the year we also borrowed equipment from

the Massachusetts Commission for the Blind, Perkins Project With Industry, and vendors.

<u>Staff</u> <u>Training</u>: The most problematic part of acquiring new devices was getting staff properly trained on the equipment before student trainees arrived. New technology in this field was advancing so quickly that it was difficult for our staff to keep up with it. Since full-time staff teach for 35 hours of the week and spend any free time evaluating clients and writing curriculum, little time, if any, is left for staff training and development.

The only answer to this was to provide off days, in which no students would be scheduled, so that staff could learn new equipment and software. We have been fortunate to acquire individuals who have the ability to quickly learn new devices just with the help of a manual and consultant. Hence, in-service training was self-taught. Often staff would spend breaks and lunch hours working together to trouble shoot a problem and sometimes vendors would come in to work with staff. Our engineer consultant, Phil Davis, often came in to teach staff new devices or software.

Hardware:

Purchased:
Apple IIe Computer systems-3
Apple Super Serial Card-4
Apple Unidisk Drive-4
Apple Monitor-2
Text n' Print Card-1
Votrax Type n' Talk speech synthesizer-1

Donated:
Apple II plus Computer systems-2
Synphonix Card, (from manufacturer)
Epson Printer, (gift)

On Loan: (This equipment was loaned to us at various times during
the year for training)

DP-10, VTEK
DP 11-1, Massachusetts Commission for the Blind
DP 11-1, PWI
IBM PC XT, IBM
IBM PC jr, IBM
IBM Graphics printer, IBM
IBM Thermal printer, IBM
VersaBraille-3, Massachusetts Commission for the Blind
VersaBraille-2, Telesensory Systems, Inc.
VersaText-1, Telesensory Systems, Inc.
VersaText-2, P.W.I.
Professional VERT-1, Massachusetts Commission for the Blind

Software:

Purchased:

Apple Prodos, Apple
AppleTalk, Apple
Bank Street Writer, Apple
Braille Edit 2.50, Apple
Computer Checkup, Apple
Eamon, Apple
Freeloader Software Lending Library programs
Lotus 1,2,3, IBM
PC Phone file, IBM
PC Talking Program, IBM
PC Talk III, IBM
PC Write, IBM
Personal Accounts, IBM

Personal Accounting, Apple
QWERTY, IBM
SEI Master Talker, Apple
SEI SAT package, Apple
Talking Writer, Apple
Talking Term Exec, Apple
Textalker 3.1, Apple
Tomb of Molinar, Apple

Public Domain: (A great deal of public domain software can be
adapted with Textalker to use with the Echo.)

Animals, Apple
Batnum, Apple
Geography, Apple
Lemonade Stand, Apple
Math Decathelon, Apple
Lesley Games, Apple
Scramble, Apple
Sports World, Apple
Survival, Apple

Donated:

AppleWriter, Apple (gift)
Braille Talk, IBM (gift)
Fortran, Apple (gift)
Magic Slate, Apple (from Manufacturer)
Pascal, Apple (gift)
Spanish Talker, Apple (gift)
Visicalc, Apple (gift)
Visifile, Apple (gift)

On Loan:

CheckBook, Apple (prototype)
Directories, Apple
Freedom 1, IBM
HomeWord, IBM (from IBM)
IBM Writing Assistant, IBM (from IBM)
PC Voice, IBM
Personal Editor, IBM (from IBM)
ScreenTalk, IBM
WordTalk, Apple

Other Peripherals:

Echo Enhancer
Blank disks-200
Hayes Smart Modem (gift)

Sanyo Tape Recorder
Smart Cable
Surge Power Strip (3)
Talking Book Machine (2)

Resource Books:

ARTS Computers
145 Tremont Street Suite 407
Boston, MA

Baruch College
The City University of New York
17 Lexington Avenue, Box 515
New York, NY 10010

Computer Aids Corporation
124 W. Washington
Lower Arcade
Fort Wayne, IN 46802

National Braille Press
88 St. Stephen Street
Boston, MA 02115

Computer Conversations
2350 North 4th Street
Columbus, Ohio 43202

National Library Service
f/t Blind and Physically Handicapped
1291 Taylor Street, NW
Washington D.C. 20542

Digital Equipment Corporation
235 Wyman Street
Waltham, Massachusetts 02154

Raised Dot Computing
408 South Baldwin Street
Madison, Wisconsin 53703

Sensory Aids Corporation
Suite 110, 205 West Grand Avenue
Bensenville, Illinois 60106

SPEECH Enterprises
P.O. Box 7986
Houston, Texas 77270

Street Electronics
1140 Mark Avenue
Carpinteria, California 93103

Telesensory Systems Inc.
455 N. Bernardo Avenue
P.O. Box 7455
Mountain View, California 94039

VTEK
1625 Olympic Boulevard
Santa Monica, California 90404

Project BYTE / 85
A Credit Course in Computer Technology for Teachers
of the Visually Impaired and
A Computer Camp for Blind Children.

The summer of 1985 marked the second year of Project BYTE, a summer computer access training program for school teachers of the visually impaired, and a computer camp for blind and visually impaired school children. The overall program ran for 5 weeks from July 1 to August 2, 1985. Classroom space and micro computer equipment was rented from The Edco Computer Center in Newton, Massachusetts. This excellent facility made it possible for us to operate Project BYTE with no disruption to existing Carroll Center programs, and we look forward to continuing this relationship in the future. Graduate credit for teachers was arranged through the Department of Graduate and Continuing Education of Worcester State College, Worcester, Massachusetts. Adaptive computer equipment was mostly from Project CABLE, but a significant amount was borrowed. Large-print display processors, braille computer terminals, and software were generously donated to us for the duration of the program by several sources, notably Telesensory Systems, Inc., Vtek, Inc., the Massachusetts Commission for the Blind, and the New Hampshire Educational Services for the Visually Handicapped. The latter not only donated a braille-output printer, a Vtek system, several voice-output systems and a great deal of software, but their Executive Director, Ms. Lynne Albright agreed to co-teach the Computer Technology course and serve as coordinator for the computer camp. The generosity of all these, as well as the basic support of the CABLE program, made it possible for us to offer the program to both teachers and students at a very reasonable fee.

Introductory Workshop
BYTE / 85 began with a 4 day "Introduction to Computers Workshop", taught by Ms. Dina Wischkin, Director of Project CABLE. This workshop, an outgrowth of our evaluation of the first BYTE program held in 1984, seemed essential because of the very great variety of computer training and experience among applicants to the program. Some participants in the 1984 course were seriously handicapped by their inexperience at the beginning. The Workshop, therefore, provided a hands-on introduction to the Apple IIe computer, elementary word processing, printing, and elementary BASIC programming. Perhaps most important, participants were shown how to evaluate commercial programs for their educational effectiveness, and were given sample programs to assess as a class project. Workshop classes ran from 9 am to 12:30 pm, and the computer lab was open daily until 4 pm for intensive practice and completion of homework. Applicants to the "Computer Technology" course were strongly urged to attend the Workshop if they were unsure of

their beginning computer skills, were inexperienced, or if the Project Director judged them to be inadequately prepared. Seven individuals attended the Workshop. They earned a single credit, granted in cooperation with Worcester State College.

<div align="center">

Syllabus
Computer Workshop
</div>

Day 1: Introduction to Computers: types, components, terminology.
Lab: Using a computer, initializing a disk, using basic games.

Day 2: Software: types and evaluation of.
Lab: Evaluating software.

Day 3: Word Processing. Logo.
Lab: Create a document with Magic Slate.

Day 4: Basic programming. Using tool software.
Lab: Write a basic program.

Bibliography:

Hannaford, Alonzo E. "Microcomputers in Special Education: Some New Opportunities, Some Old Problems", The Computing Teacher, February, 1983.

Papert, Seymour. Mindstorms. Basic Books, Inc. New York, 1980.

Piper, Karen L. "The Electronic Writing Machine: Using Word Processors with Students", The Computing Teacher, December/January 1983-84.

Russell, Susan Jo. "Had We But World Enough & Time: Logo in Special Education", Classroom Computer Learning, October, 1983.

Scotchmoor, Judith. "Order out of Chaos" Classroom Computer Learning, March, 1984.

Turkle, Sherry. "The Intimate Machine", Science, April, 1984.

Computer Technology Course
    Immediately following the Workshop, Ms. Wischkin was joined by Ms. Lynne Albright in teaching the 2 week, 3 credit course entitled "Computer Technology for the Visually Impaired". A total of 17 teachers took part, some of whom, of course, had also participated in the preceeding Workshop. They were from Massachusetts, Maine, New Hampshire, Rhode Island, Connecticut, New York, Virginia, South Carolina, and Puerto Rico. Each teacher/student was given his own microcomputer, usually Apple

IIe's although one teacher attended specifically to learn the PC Vert, and was, therefore, on an IBM PC for almost the entire course. The overall thrust of the course was to develop fluency in the major adaptive devices like the Echo II voice output device, the Versabraille softcopy and Cranmer Perkins hardcopy braille output printers, and the Vtek DP-10 large print display processers. Software was primarily Braille Edit and Magic Slate (large print display), though a very wide range of other educationally-oriented programs were either demonstrated or available for teachers to review. Software evaluation was given much more emphasis than in 1984, and BASIC programming considerably less.

New this year were the appearances of three guest lecturers, Mr. Robert Gildea of the Mitre Corp., who spoke on computer systems architecture, Mr. Bert Cohen, a respresentative from VisualTek, who demonstrated the DP 11 and MBoss printer, and Mr. Robert MacGillivray, Director of the Carroll Center's Vision Rehabilitation Clinic, who spoke in considerable detail on low vision computer techniques and various optical and electronic measures which can be taken to enhance CRT reading skills. It should be a fundamental principle of work with computers and schoolchildren that elaborate (and, of course, expensive) adaptive computer devices should be employed only after it has been determined that simpler low vision techniques are not practicable. This accent on low vision computer skills was carried over into the computer camp also, where low vision evaluations were done on each student participant.

Syllabus
Computer Technology Course

Day 1: Introduction to course; Review of computer use and application; Introduction to access software and devices; Introduction to BRAILLE EDIT.
Lab: Create and print out a document using BRAILLE-EDIT.

Day 2: Discussion of storage, languages, disk and software laws; programming in basic; additional BRAILLE EDIT instruction.
Lab: Write a basic program; Translate a BRAILLE-EDIT file into grade two and print it on the Perkey.

Day 3: Voice synthesis discussion; Instruction in the installation and use of the Echo speech synthesizer.
Lab: Write a program using the Echo.

Day 4: Guest Lecture: Low Vision aids for Computer use.

Day 5: VersaBraille instruction and interfacing techniques.
Lab: Practice use of the VersaBraille.

Day 6: Guest Lecture: Data Communication; Program modification; demonstration of voice output devices other than Echo.
Lab: Practice with use of voice synthesizers.

Day 7: Guest Lecture: Demonstration of the DP 10 and MBoss printer. Other Large print modifications.
Lab: Write a program using the DP 10, VersaBraille or Echo.

Day 8: Access for the IBM PC.
Lab: Work on projects.

Day 9: Printing tactile graphics.
Lab: Create and print a graphic on the Perky.

Day 10: Communication programs; Presentation of software by students.

Bibliography:

Fersko-Weiss, Henry. "Data Storage, How Much Do You Need?", Personal Computing, June, 1985.

Holladay, David. "The VersaBraille and the Apple Computer", Raised Dot Computing.

Jone, Warren, et al. Computer Literacy. Reston Publishing Company, Inc. Virginia, 1983.

Lauer, Harvey. "Review of Braille-Edit as a Talking Word Processor", January, 1985.

Lauer, Harvey, and Mowinski, Leonard. "Selecting Computer Aids for the Visually Impaired, A Troubling Qaundary", November, 1984.

"Resource List: Computers and Visually Impaired Students", Center for Multisensory Learning, Lawrence Hall of Science, University of California, Berkeley, CA, January, 1985.

Computer Camp
      The computer camp was attended by 18 children ranging in age from 11 to 18 (grade levels 5 to 11). Age distribution was: age 11: 2; age 13: 6; age 14: 2; age 15: 1; age 16: 5; age 17: 1; age 18: 1. Five children had attended the 1984 camp, but were accepted a second time chiefly because their schools had not provided adequate support for them during the school year and they had fallen far behind their sighted classmates. An unusually high number - 8 - were completely without vision, and some of them, distressingly enough, had such weak braille skills that they were limited to using only voice-output devices.
      Information flyers and application forms were distributed to

Teachers of the Visually Impaired throughout New England, to counselors and social service workers at the various state commissions for the blind, and directly to those students and families we knew about.

Three instructors participated in the two week camp: Ron Ritter, a full-time instructor at CABLE; Brian Charlson, a part-time instructor at CABLE; and Lynne Albright. Dina Wischkin assisted in teaching for the first week.

Low Vision Screening: During the two week camp, students with functional vision were screened for their potential to visually access print information and character display on computer monitors. Each student was interviewed to gain the following information:

> * Cause of visual impairment (congenital or adventitious)
> * History of treatment and surgury
> * Conventional prescription glasses and how worn (Distance? Near? Part time? Continual?
> * Low vision history: last exam; adis used and purposes
> * Student's reading method: print type size, tape, duration

Next, near visual acuity was assessed using a Rosenbaum number card, Sloan text cards, and typed passages. Acuity was determined unaided, with conventional prescription glasses, and with the student's low vision aids if available.

The final phases involved functional evaluation of student's ability to access computer information via regular character display. Enlarged Apple graphic characters (software package), Vtek 19" monitor (1X magnification), and the Vtek DP-10 large print display processor were used to evaluate large character display. Students with prescribed bioptic mounted telescopes were assessed for their ability to use this aid to read the regular size monitor display. A variety of reading caps were tried. Students who did not have intermediate low vision aids received initial introduction to telemicroscopic systems including a mounted Walters telescope, Eschenbach telemicroscope, and Designs for Vision bioptic with reading cap, to determine the potential benefit of and the student's reaction to such aids.

This evaluation information was then used to determine if optical aids or large print display are appropriate, and if so, what enlargement format should be used. Recommendations were also made for further low vision clinical evaluation of optical aids. Written reports included students' stated preferences for the character size and format of monitor display.

It should be cautioned that this screening procedure allowed for observation of short term use only. Issues of duration need to be evaluated further on a long term basis.

The low vision evaluations were carried out by Ms. Susan

Schacht, intern in Low Vision at the Carroll Center from the Pennsylvania College of Optometry. Supervision and design of the evaluation project was by Mr. Robert MacGillivray, Director of the Carroll Center's Vision Rehabilitation Clinic.

Camp Curriculum:

The camp was divided into two sessions: morning and afternoon. Ten children participated in the morning; eight came in the afternoon. When the students were not at the computer camp, some of them participated in a career exploration program run by Perkins School for the Blind at the Carroll Center.

Each class was divided into three sessions that were an hour long each. Students were divided into groups depending on their computer background knowledge and functional vision. Each group attended a different session on computers. The following topics were covered in the course:
        .Computer Literacy
        .Logo
        .Basic
        .Braille-Edit
        .VersaBraille

Although most of the instruction took place on the Apple IIe Computers, 2 students had IBMs in their school systems and were instructed on its use during the first week. Students who read braille learned how to operate the VersaBraille, while students with functional vision utilized enlarged screens and learned how to program with Logo. All the student learned and used Braille-Edit and played games.

In addition to instruction, the students participated in some special activites. The first was a field trip to the Computer Musuem were students were able to play with some different computers and see film clips on the history of computers and their use. During the second week, students wrote articles and designed pictures for a newspaper; the morningg class created the "morning edition" and the afternoon group created the "afternoon edition". On the last day of camp, parents were invited to attend a "graduation" celabration that included demonstrations by the students.

Critique

In order to provide you with needed information and in the accepted form, we would like you to fill out the following evaluation form.

Name:_____ Title: _____

Agency: _____

Address: _____

Do you currently have an established computer program?

If not, are you in the process of organizing or implementing one?

Are you an instructor of devices?

Did you purchase the first Resource Manual?

Content:

Did you find the background narative of this manual useful? In what way?

Did you use the lesson plans?

Which were used? The assessment plans or device training plans?

What chapters were most useful to you and your program?

Chapter	Useful	Not Useful
One	___	___
Two	___	___
Three	___	___
Four	___	___
Five	___	___
Six	___	___
Seven	___	___

```
        Eight                          __                      __
        Nine                          __                      __
```

Have you xeroxed or removed any parts of the manual for instructional
purposes?

Did the manual meet your expectations?

Was there information missing that you feel we can provide you with?

If yes, please list:

<u>Presentation</u>:

Did you think the manual was presented in an organized fashion?

Do you like the loose paper in the binder?

Do you think you will order next years manual?

Thank you for taking the time to fill this out. Please use the enclosed envelope for mailing.

Critique

In order to provide you with needed information and in the accepted form, we would like you to fill out the following evaluation form.

Name:_____ Title: _____

Agency: _____

Address: _____

Do you currently have an established computer program?

If not, are you in the process of organizing or implementing one?

Are you an instructor of devices?

Did you purchase the first Resource Manual?

Content:

Did you find the background narative of this manual useful? In what way?

Did you use the lesson plans?

Which were used? The assessment plans or device training plans?

What chapters were most useful to you and your program?

Chapter	Useful	Not Useful
One	___	___
Two	___	___
Three	___	___
Four	___	___
Five	___	___
Six	___	___
Seven	___	___

```
     Eight                    __                      __
     Nine                     __                      __
```

Have you xeroxed or removed any parts of the manual for instructional purposes?

Did the manual meet your expectations?

Was there information missing that you feel we can provide you with?

If yes, please list:

Presentation:

Did you think the manual was presented in an organized fashion?

Do you like the loose paper in the binder?

Do you think you will order next years manual?

Thank you for taking the time to fill this out. Please use the enclosed envelope for mailing.

This is to confirm that we have received your request for admission to the Computer Access Program at The Carroll Center for the Blind.

We must remind you that it will be necessary for you to contact your rehabilitation counselor and inform him/her of your application if you intend to apply through a state agency.

The application process for this program will involve:

(1) Completing the enclosed application form and returning it in the provided envelope, and

(2) An oral interview with a member of The Carroll Center Staff which will be arranged after the written application has been received.

The current restriction of the program will only allow us to service three to four clients at a time so you should expect a short delay until space is available.

Thank you for your patience and cooperation.

Sincerely,

Dina Wischkin
Project Director
Computer Access Program

DW/sjm

Encs.

Appendix A

```
PROJECT  C      Computer
         A      Access for the
         B      BLind in
         L
         E      Education and Employment
```

―――

The Carroll Center for the Blind, 770 Centre Street, Newton, MA 02158

FACT SHEET

Course I   Computer Assessment

Content

.Overview of microcomputers and computer terminology through
lecture   and literature. Materials available in print, tape
and braille.

.Hands-on instruction of Apple and IBM personal computers.
Application   programs involving word processing, data entry,
accounting and   telecommunications will be utilized.

.Exposure to adaptive devices for speech, braille and large
print   output from the computer.

.Independent work assignments involving word processing and
data entry.

.Ongoing and final evaluation of client's skills and preferred
access   device.

Prerequisites

.Accurate keyboard skills.
.Good spelling skills.
.Basic problem solving skills.
.Note taking skills.
.Ability to travel independently.

Course length   Course meets 9 to 5 daily for two weeks.

Course fees
    Tuition $1200 minus $600 federal subsidy=$600
    Residence $130/week on a space available basis

Contact person

CARROLL CENTER FOR THE BLIND,
Dina Wischkin - 617-969-6200, Mass. Toll Free - 1-800-852-3131

or your state agency or commission for the blind
MASSACHUSETTS COMMISSION FOR THE BLIND-- 617-727-5550

ALL APPLICANTS MUST COMPLETE AN APPLICATION FORM AND AN INTERVIEW WITH
THE PROGRAM DIRECTOR. ADMISSION IS DETERMINED BY THE DIRECTOR BASED
ON CLIENT'S SKILLS AND GOALS.

COMPUTER ACCESS PROGRAM

The Carroll Center for the Blind, 770 Centre Street, Newton, Ma. 02158

ASSESSMENT APPLICATION

NAME:_____DATE_____

STREET:_____

CITY:_____STATE:_____ZIP:_____

HOME PHONE:_____WORK NUMBER:_____
        AREA CODE   NUMBER   AREA CODE   NUMBER

Please answer the following questions. If you need more space, attach an
additional page.

1. Are you applying through a state agency? Yes____   No____
    If yes, give agency name, phone number, and rehabilitation counselor's
    name:
    _____

    _____

    If not, who will pay for the services?

    _____

2. Are you employed? Yes___   No___
    If yes, list the place of employment and job title.

    _____

    _____

3. Are you enrolled in any college courses or programs?
    If yes, what field are you studying?

    _____

    _____

4. Have you been involved in other vocational rehabilitation programs?
    Yes___ No___

    If yes, list program(s), place(s), and date(s).

    _____

    _____

Appendix A   3

. Will you need housing to attend? Yes_____   No_____

. Circle primary communication method:

   Audio   Braille   Large Print

. Mobility Mode: Cane_____   Guide Dog_____

. Is English your primary language? Yes_____   No_____

. Give your reasons for applying to this program--detail your expecta-
  tions; goals and some background. Write one page on this subject.

```
PROJECT C    Computer
        A    Access for the
        B    BLind in
        L
        E    Education and Employment
```

The Carroll Center for the Blind, 770 Centre Street, Newton, MA 02158

FACT SHEET

Course II   Device Training

Content

    .Hands-on instruction in full operation of chosen access device.

    .Hands-on instruction in use of computer system to be used with device, if needed.

    .Instruction in system setup and cabling.

    .Simulated work activities utilizing equipment.

    .Preparation of files/disks for immediate work implementation.

    .Structured trouble-shooting of problems.

    .Overview of documentation.

Prerequisites

    .Completion of Course I or equivalent.
    .Selection and acquisition of the device.
    .Selection and acquisition of software to be used on job site.
    .Ability to travel independently.

ALL PARTICIPANTS MUST BRING ACCESS DEVICE, SOFTWARE, BLANK DISKS AND MATERIALS FOR NOTE TAKING TO THE COURSE.

Course length: Course meets 9 to 5 daily for a one to three-week duration. Time required is determined on an individual basis by the program director.

Course fees: Group course (consisting of two or more persons)- $600/week minus $300 federal subsidy=$300/week.

Individual instruction - $100/day.

Residence: $130/week on a space available basis

Contact person:
CARROLL CENTER FOR THE BLIND,
Dina Wischkin - 617-969-6200, Mass. Toll Free - 1-800-852-3131

or your state agency or commision for the blind:
MASSACHUSETTS COMMISSION FOR THE BLIND-- 617-727-5550

ALL APPLICANTS MUST COMPLETE AN APPLICATION FORM.

Appendix A   5

TRAINING COURSES

The following is a sample listing of training given in the use of
hardware and software. Training on other devices and software may be
available if advanced notice is given.

Computers

.Apple

.IBM PC/XT

Access Devices

.Cranmer

.DP 10 and 11

.DECTalk

.Echo

.Professional VERT

.VersaBraille

.VersaBraille II

.Viewscan Text System

.Vista

.Votrax

Software

.Braille Edit Express (BEX)

.Braille-Edit

.Braille Talk

.Enhanced PC Talking Program

.Info

.Magic Slate

.QWERTY

.Screentalk

.Softvert

.Talking TermExec

.Talking Transcend

.Wordtalk

PROJECT CABLE: COURSE II INFORMATION SHEET

CARROLL CENTER FOR THE BLIND
770 Centre Street, Newton, MA 02158

AGENCY:_____ PHONE #:_____

COUNSELOR'S NAME:_____

CLIENT'S NAME:_____

ADDRESS:_____

PHONE #:_____

PLACE OF EMPLOYMENT:_____

JOB TITLE:_____ FULL OR PART TIME?

JOB RESPONSIBILITIES:_____
_____

IS THIS A NEW OR EXISTING POSITION?_____

DOES THE CLIENT HAVE PREVIOUS COMPUTER TRAINING?_____

IF YES, ON WHAT SYSTEMS?_____

CURRENT TRAINING NEEDS (BE SPECIFIC):

COMPUTER_____ SOFTWARE:_____

ADAPTIVE DEVICE(S)_____   _____
_____   _____

OTHER (i.e PRINTER)_____

SPECIFIC TASKS TO BE COMPLETED ON COMPUTER SYSTEM:_____
_____
_____

WHAT KIND OF SUPPORT IS AVAILABLE ON THE JOB?_____
_____

Please comment on the client's learning style. (i.e. quick learner,
needs lots of repetition, highly motivated, nervous, etc.):
_____
_____

CLIENT NAME: _____

INTERVIEW DATE: _____

INTERVIEWED BY: _____

<div align="center">Client Information</div>

NAME:_____DOB:_____
ADRESS:_____
PHONE:_____   WORK:_____

NEXT OF KIN:_____ PHONE:_____
AGENCY:_____ COUNSELOR:_____
PHONE:_____
****
REASON FOR REFERRAL: COURSE I __   COURSE II __
                        OTHER _____

GOALS:

RESIDENT_____ COMMUTER_____

MOBILITY MODE: Cane____   Dog____

MODE OF COMMUNICATION:

        Braille   Audio   Large Print
==
MEDICAL HISTORY: VISION
        Cause of Loss:
        Age of Onset:
        Degree OD_____ OS_____
        Prognosis:

        Aids:

MEDICAL HISTORY: GENERAL
        Health Condition: Excellent   Good   Fair
        Diabetic?
        Medications:

        Allergies:
        Meal Plan: Regular____ Low Sodium____ Other_____

        Other Impairments:

Previous Rehabilitation Training:

O&M_____PM_____COMMUNICATIONS_____GUIDE DOG_____

EDUCATION

Grade Completed: 1 2 3 4 5 6 7 8 9 10 11 12
Undergraduate Education:

Graduate Education:

Vocational Education:

===

EMPLOYMENT

Work Status: Employed___   Student___   Seeking___

Areas of Work:

Most Recent Employment:

Dates of Last Job: Reason Termination:

Equipment can use:

       Taperecorder___
       Typewriter_____
       Brailler   ___
       Dictaphone ___
       Other_____

Hobbies:

===
Reports to be requested:

Medical___   Low Vision___   Mobility___   Eye Report___
List of Medication___   Personal Adjustment Training___

===
Interviewer's Observations:

Name_____ Date_____ Int:_____

ARITHMETIC SKILLS

Addition -- Add the following sums.

```
      1.  45    2. 371   3.  57   4. 847   5. 35
          23        28       35       58      48
          ---       ---      ---      ---     79
                                              ---
```

Subtraction -- Subtract the following numbers.

```
      1.  56    2. 847   3. 745   4. 75   5. 32
          24       235      326      58       7
          ---      ---      ---      --      --
```

Multiplication -- Multiply the following numbers.

```
      1. 10 X 10 =
      2. 600 X 6 =
      3. 24 X 2 =
      4. 83 X 6  =
      5. 73 X 3 =
```

Division -- Divide the following numbers.

```
      1.  57 / 3  =
      2.  90 / 6  =
      3.  95 / 6  =
      4. 100 / 3  =
      5.  77 / 11 =
```

Mixed Number Exercises -- Answer the following questions.

1. If a number is odd, then it can never be equally divided by:
    a. 3   b. 1   c. 2   d. 5   e. 7

2. 65% is equivalent to which of the following?
    a. 65   b. 6.5   c. .65   d. .065   e. .0065

3. A shirt costs 3.75.   If Jay buys three shirts, how much change
does he get from a twenty dollar bill?
    a. 8.75   b. 9.00   c. 9.25
    d. 9.50   e. 9.75

4. A certain business had a profit of 10,000.00.   If it paid 20% of
its profit in taxes, how much tax did it pay?
    a. 2,000.00   b. 200.00   c. 20.00
    d. 2.00   e. 222.22

SPELLING SKILLS

Spell the following words.

1. carrot   10. equally
2. accept   11. loose
3. angle   12. occur
4. exceed   13. dull
5. gift   14. receive
6. mail   15. return
7. stamina   16. quiet
8. water   17. bureau
9. delete   18. shift

READING COMPREHENSION SKILLS

Listen to the following story and answer the questions that follow.

There is a plant that lives on small flies and other insects that it
catches in a trap of its own. It is called the pitcher plant because
of the shape of its leaf. A fly is tempted by the sticky liquid on
the sides to crawl down the pitcher-shaped leaf. When he has eaten a
good meal and is ready to fly home, he finds that the top of the leaf
is too narrow to let him spread his wings. Also on the sides there
are little hairs, all pointing downward, and these keep him from
crawling out. He clings to the leaf until he grows tired and must at
last fall to the bottom of the pitcher plant, which is often partly
filled with water. Here he must either starve to death or drown.
Then the plant feeds upon the body.

1. The pitcher plant feeds upon ...
        a. leaves   b. insects
        c. sticky liquid   d. little hairs

2. The plant's name comes from ...
        a. shape of leaves   b. hairs
        c. sticky liquid   d. way it eats

3. The fly is tempted by the ...
        a. hairs   b. shape of leaf
        c. color of leaf   c. sticky liquid

4. The fly crawls down the leaf in order to ...
        a. play   b. fly
        c. eat   c. walk

5. The bottom of the plant often has ...
        a. hairs   b. leaves
        c. water   d. dirt

6. The fly finally ...
        a. flies out   b. dies
        c. crawls out   d. eats way out

7. The plant ...
        a. helps the fly crawl out
        b. keeps the fly from dying
        c. helps the fly to fly out
        d. feeds upon the fly's body

TYPING SKILLS

Take a one minute typing test on the following text.

      Boy, have we had excitement in school today. While I was taking my quiz in history, fire broke out in the lab in room 39. Smoke spread into the hall and the adjacent rooms 38 and 40 in a hurry.
      Then the fire alarm rang, and out we went in a rush, taking just 2 minutes to empty the place. The blaze was out in 2 minutes, too; we went back to class. We did not finish the quiz. You might say that we were saved by the fire bell, I guess.

Take a three minute typing test on the following text.

      Many writers have tried to copy or equal the writing style of Mark Twain. No one yet has been successful. It seems to be next to impossible to catch the spirit with which he wrote, or just the right touch of twinkle in his sly humor.
      In some fields of work, it is a good idea to select the top man in the field and study him, to determine what he did to become what he is. Such analysis tells you what you may have to do, or do without, to match his marked success by your own.
      But this plan does not work when you turn to writing for a career. Oh, a study of the working habits and tricks of the trade of good authors is helpful in a technical way, that's true. But the roadway is rocky, and only when you have paved it with the embers of many manuscripts is it smooth.

COMPUTER LITERACY

1. I have had previous use of computers?

    a. yes, what kind:
    b. no

2. I have taken a class about computers.

    a. no
    b. yes, one class
    c. yes, more than one class

3. I have written computer programs.

    a. no
    b. yes, 1 or 2 programs
    c. yes, 3 to 10 programs
    d. yes, more than 10 programs

4. Where have you learned the most about computers?

    a. from movies and television
    b. from books, newspapers, and magazines
    c. from my friends
    d. from my parents
    e. from teachers and class activities
    f. none of these

5. In order to use a computer, a person must know how to program.

    a. true
    b. false
    c. I don't know

6. Computers are not good for tasks that require:

    a. speed
    b. accuracy
    c. intuition
    d. something to be done over and over again
    e. I don't know

```
Disagree   Undecided   Agree
   A           B          C
```

7. Working with a computer would probably make me feel uneasy or tense......

8. I feel helpless around a computer.....................

9. Computers sometimes scare me...........................

10. I would very much like to have my own computer.................

11. Which of these categories best describes the occupation <u>you</u> <u>expect</u> to have?

    a. semi-skilled: general work in a factory, farm, hospital, restaurant,
      service station, etc. (work that does not require a lot of training)
    b. skilled: skilled work in a factory, farm, hospital, mechanic's shop,
      etc. (work that requires a lot of training and experience)
    c. clerical and sales: work in an office, store, business, factory, post
      office, bank, etc.
    d. professional and executive: work as a doctor, lawyer, engineer,
      accountant, teacher, manager or person in charge, director, etc.
    e. homemaker
    f. some other

12. Have you or someone in your family thought about getting a computer for
    your home?

    a. yes
    b. no

ASSESSMENT CURRICULUM BLOCK PLANS

```
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      COMPLETED                            X           SCORE
                                           X            OR
                                           X         COMMENTS
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
ORIENTATION TO                             X
      CARROLL CENTER                       X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
FILL OUT                                   X
      MEDICAL FORM                         X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
INTRO TO APPLE IIE: group discussion or    X
    intro disk with sighted reader         X
(use Apple Presents Apple)                 X
      Keyboard, disk drive, disks,         X
      monitor.                             X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
INTRODUCTION TO APPLE WITH TEXTALKER       X
                                           X
      - Sec demo (sec demo disk)           X
                                           X
      - Talking Writer typing game         X
                                           X
      - Apple tutorial (Lauer disk)        X
                                           X
      - Spelling test (textalker disk)     X
                   (word list-"RON")       X
                                           X
      - Dungeons of the gods               X
                   (entry disk)            X
                                           X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
INTRO TO BRAILLE-EDIT                       X
         - WRITE                            X
                                           X
         - READ                            X
                                           X
         - EDIT                            X
         (control- D,I,N,B,F,O,R)          X
                                           X
         - SAVE  (control Q)               X
                                           X
         - PRINT COMMAND                   X
                                           X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SECOND ATTEMPT BRAILLE-EDIT                 X
         Write, edit, print                X
                                           X
```

```
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
   KEYBOARDING NOTES:
         Ability to touch type:
         Heaviness of hands on keys:
         Use of punctuation and control keys:


XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                      X
DICTATED TYPING TEST                  X                words per minute
                                      X-----------------------------
USING BRAILLE EDIT                    X                      errors
                                      X
-----------------------------------X-----------------------------
   notes on editing of                X
         document                     X
                                      X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      AUDIO TAPES                            X
         - PERSONAL COMPUTERS TAPE  --------X----
                                            X
         - PRIMER  TAPE  -------------------X----
                                            X
         - BAUD DISK DRIVE  ----------------X----
                                            X
         - HADLEY MICRO INTRO 1  -----------X----
         - HADLEY MICRO INTRO 3  -----------X----
         - HADLEY MICRO INTRO 4  -----------X----
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
INTRO TO VERSA BRAILLE (stand alone)        X
                                            X
         - FORMAT                            X
                                            X
         - CHAPTERS                          X
                                            X
         - WRITE                             X
                                            X
         - READ                             X
                                            X
         - EDIT                             X
                                            X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
A LOOK INSIDE THE APPLE:                     X
         cables, chips, ports,etc.           X
     (group discussion/demonstration)        X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                            X
VERSA BRAILLE AS AN APPLE TERMINAL           X
                                            X
         - DUNGEONS                          X
                                            X
```

```
            - BANK                        X
                                          X
            - HANGMAN                     X
                                          X
                                          X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                          X
TEXTALKER REVIEW MODE FOR:                X
                                          X
            - DIRECTORY       ----------------------
                                          X
            - PROGRAM         ----------------------
                                          X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
INTRODUCTION TO INFO DATABASE             X
                                          X
            - Format of database          X
                                          X
            - Entering information        X
                                          X
            - Saving data                 X
                                          X
            - Searching for data          X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
READY EXERCISES    #1 & 2                  X
                                          X
    Instructor dictate accounts           X
        to enter, read, delete      ------X-----
        using BANK program                X
                                          X
    Type Business letter from             X
        Ready Exercises tape        ------X-----
        tape, use Braille-Edit            X
                                          X
    Data Entry using "Mailorder" file ---X-----
        on INFO program (data on tape)    X
                                          X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                          X
USE OF TERMEXEC TALKING TERMINAL          X
         Apple IIe / Echo II / Modem      X
( group session - if possible )           X
                                          X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                          X
INTRO TO DECTalk, using IBM XT            X
   with PC Enchanced Talking Program      X
   and IBM Writing Assistant              X
                                          X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                          X
```

```
INTRO TO VISUALTEK                             X
      LARGE PRINT MONITOR                      X
                                               X
                                               X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                               X
INTRO TO VIEWSCAN TEXT SYSTEM                  X
         - PORTABLE COMPUTER                   X
                                               X
         - CAMERA READER                       X
                                               X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                               X
INTRO TO IBM PC with PRO VERT                  X
------------------------------------           X
                                               X
   * - RUN "TYPE NAVIGATE" FILE                X
                                               X
   * - RUN FREELOADER GAMES                    X
                                               X
   * - Use of PC WRITE & review mode           X
                                               X
     - QWERTY  (no review screen needed        X
                                               X
                                               X
     (* - requires review screen)              X
                                               X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
 WRITE AN EVALUATION                           X
     (using Braille Edit)                      X
         -LIKES -DISLIKES -IMPROVEMENTS        X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
DISCUSS FINAL REPORT                           X
                                               X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
DISCUSS WITH STUDENT: WAIVER FORM              X
       (have student sign form)                X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

ACTIVITIES LISTED BELOW ARE OPTIONAL: DO ONLY IF EXTRA TIME

     - TEXTALKER DISKS                         X
         - GAMES DISK          -----------X-----
         - EDUCATON DISK       -----------X-----
         - APPLE TALK                      X
                                           X
     - COMPUTER AIDS DISKS                  X
         - WORDTALK            -----------X-----
         - SCREENTALK          -----------X-----
         - BRAILLE TALK                    X
                                           X
```

          .

```
      - INTRO TO B.A.S.I.C. PROGRAMMING    X
                                           X
      - FREE REVIEW                        X
*****************************************************************
                                           X
        INTRO TO                           X
           LOTUS  1 2 3                     X
                                           X
*****************************************************************
                                             *
                                             *
DISCUSS (WITH CLIENT) EQUIPMENT PREFERENCES  *
                                             *
                                             *
*****************************************************************

EQUIPMENT PREFERENCE NOTES (for final report)
```

```
***************************************************************
                        LOW VISION NOTES
***************************************************************
                  X                 X                 X TIME
    COMPUTER      X   SCREEN SIZE    X    DISTANCE     X SPENT
                  X  inches/columns  X     eyes to:    X approx.
                  X (diag. measured) X screen/keyboard X
                  X                 X                 X FATIQUE?
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                  X                 X                 X
                  X                 X                 X
                  X                 X                 X
                  X                 X                 X
                  X                 X                 X
-----------------X-----------------X-----------------X----------
                  X                 X                 X
                  X                 X                 X
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                  X                 X                 X
                  X                 X                 X
-----------------X-----------------X-----------------X----------
                  X                 X                 X
                  X                 X                 X
                  X                 X                 X
                  X                 X                 X
                  X                 X                 X
```

```
************************************************************
                Client Medical Information
                  Computer Access Program

NAME:_____STUDENT NAME_____

ADDRESS:_____

_____

PHONE:_____

NEXT OF KIN_____    PHONE:_____

D.O.B._____

TYPE OF MEDICAL INSURANCE:_____

INSURANCE #:_____

MEDICATIONS:_____

_____

DIABETIC?: NO     YES

MAJOR MEDICAL PROBLEMS:_____

_____

CABLE PARTICIPATION DATES:_____

circle one:      RESIDENT         COMMUTER


xerox-give original to nurse; copy for files
```

Appendix C   7

EVALUATION REPORT

NAME: _____CLIENT_____

COURSE ____I_____

DATE OF EVALUATION: _____6/21/85_____

DATE OF PARTICIPATON: _____6/17-6/21/85_____

EVALUATOR(S): _____JOAN KELLEHER_____

_____RONALD RITTER_____

EQUIPMENT USED/TESTED: __X__SPEECH
                              __X__BRAILLE
                              _____LARGE PRINT

      All the evaluative information in this report is based on observations and work performance. When reviewing this report please keep in mind that during this two-week course each student is exposed to a wide variety of equipment and assigned many application tasks to complete.

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```
                        EQUIPMENT EVALUATION

*******************************************************************
Key:      1 = Student is knowledgeable annd independent
          2 = Student requires verbal assistance
          3 = Student requires hands-on assistance
          4 = Unstatisfactory, see comments
*******************************************************************
                    Versa Braille (paperless braille)
                        Not Applicable ___

            Activity
1.  Placement of keys
       Text access keys                           __1__
       Advance/backup keys                        __1__
       Braille keys                               __1__
       Use selection keys                         __1__
       Startup key & port                         __1__
2.  Turnon procedures                             __1__
3.  Preparing tapes for use                       __1__
4.  Retrieving text                               __1__
5.  Reading using forward/back keys               __1__
7.  Writing without editing                       __1__
8.  Writing with editing                          __1__
```

COMMENTS ON CLIENT'S ACTIVITY: Client used the VersaBraille as a
stand alone word processor for 9 hours; and as a terminal to the Apple
for 4 hours. Client particularly enjoyed using the VersaBraille. As
a stand alone, Client wrote four lengthy chapters. Her braille
reading and writing skills are productive and accurate. She easily
understood the concepts behind using the VersaBraille, and her
excellent memory of the function keys allowed her to work
independently. She did searching for chapters, pages, and words. As
a terminal to the Apple Client used a wide variety of programs,
including the Bank database and Braille-Edit to translate her
Versabraille chapters to ink print. Again, after initial instructions
and key presses were explained, she worked accurately and
independently.

```
                    Apple with Echo II speech sythesizer
                        Not Applicable _____

            Activity
1.Keyboard Setup
       Character keys                             __1__
       Cursor keys                                __1__
       Control keys                               __1__
2.  Use of disk drive                             __1__
3.  Turnon procedures                             __1__
4.  Activating Speech                             __1__
```

```
5. Review Screen                                      .
     Control L                                     __1__
     Top of screen                                 __1__
     Line Reading                                  __1__
     Word Reading                                  __1__
     Spelling                                      __1__
     Exit                                          __1__
```

COMMENTS ON CLIENT'S ACTIVITY
Client used the Apple with Echo speech for aproximately 22 hours. She
was very successful using the Echo speech. From the beginning she had
no problem understanding the speech and using the commands. Braille
Edit was used to write business letters and compositions. Her editing
skills are excellent; she efficiently and independently corrects text
to produce near perfect copy. Client also used Info and Bank
databases for data entry and retrieval. With Info, she did extensive
searching and created her own form and file. She also was given an
overview of the Apple's insides (cards, ports, cable connections), and
was able to independently insert cards and do cable hookups (i.e.
printer, versabraille). She also did some introductory BASIC
proramming. .e

                  IBM PC with Professional Vert
                     Not Applicable _____

          Activity
1. Keyboard
     Character keys   __1__
     Function keys   __1__
     Cursor movement keys   __1__
2. Use of disk drives   __1__
3. Turnon procedures   __1__
4. Activating Speech   __1__
5. Reading Screen
     Line Reading   __1__
     Word Reading   __1__
     Spelling   __1__
     Page reading   __1__

COMMENTS ON CLIENT'S ACTIVITY
Client used the IBM with Vert for 16 hours. She easily adapted to the
IBM and Vert commands. She used PC Write and Qwerty wordprocessors to
write a number of compositions and text from dictation. She   used
Lotus 1-2-3 and created two spreadsheets.

                     WORDPROCESSING SKILLS

Software programs used: - Braille Edit on Apple with Echo;
                        - PC Write; Qwerty on IBM with Vert;

- Writing Assistant on IBM XT with PC Enhanced
Talking
    Program and DECTalk;
- VersaBraille word processing system;

	Area	
1. Entering Text		1
2. Editing Text		
Inserting		1
Deleting		1
Moving		1
Find/Search/Replace		2
3. Formating Operations		1
4. Transfer Operatiions		
Saving		1
Loading		1
5. Printing Operations		1

Comments:
Client was very successful at wordprocessing. She quickly and
thoroughly understood the concepts involved. Her excellent memory
skills allowed her to switch to new programs and machines and begin
working independently after an initial explaination and overview. By
the second week she used each program independently - from booting up
to setting up the printer and printing out.

WORK-SKILL EVALUATION REPORT

```
****************************************************************
Key:    1=All of the time
        2=Most of the time
        3=Some of the time
        4=None of the time
****************************************************************
```

		Comments
Effectively utilizes time?	1/	very concientious worker
Organizes work area?	1/	organized in all respects
Organizes materials?	1/	_____
Can shift from equipment/tasks?	1/	easily transferred concepts
Remembers instructions?	1/	good memory skills
Remembers command sequences?	1/	_____
Recognizes and corrects errors?	1/	_____
At ease with equipment?	1/	_____
Proper use awareness?	1/	_____
Understands terminology?	1/	_____
Requires constant supervision?	4/	independent worker
Seeks assistance when needed?	1/	_____
Finds keys?	1/	_____
Identifies materials in work areas?	1/	_____
Uses disks properly?	1/	_____
Applies concepts to various equipment?	1/	_____

Clerical Skills:

```
Typing Test: WPM 41           EPM  4
Keyboarding   fine
Knows structure of:     Letter-Yes
                        Memo  -Yes
                        Spreadsheet-Yes
                        Data-Base-Yes
Would benefit from using Spelling Checker? Not necessary
```

ADDITIONAL DEVICES USED:

IBM XT with PC Enhanced Talking Program with DECTalk: Client used
Writing Assistant with this system. She had no problem using the
somewhat awkward review mode to edit her document. Again, she worked
quickly, independently, and accurately.

Apple and Hayes modem with Termexec Talking Terminal: Client accessed
various on-line data bases, while using this machine. She enjoyed the
voice, and explored the various computer services.

EVALUATOR'S COMMENT REPORT

NOTE: This area is provided for the evaluator to give general interpretative feedback concerning the client and his/her progress in the evaluation portion of the computer access program. In this section you should find helpful information concerning not only the interpretation of client's progress and skills but some information about general attitudes, personalities and attributes that could affect the person's ability to perform in different environments. Please note that this is an interpretation and may be affected by circumstances not readily apparent to the interpreter.

Mobility: excellent, uses cane

Curriculum completion/revision: Client finished the Course I required curriculum with additional time to further explore the VersaBraille, Lotus 1-2-3, and do BASIC proramming. She wrote an extraordinary number of documents during the course due to her creativity and quick learning of each program.

Potential areas of employment :We believe Client will be successful in whatever she chooses. During Course I she demonstrated competence in all she did.

Areas to be worked on:none

Best mode of communication(s): Client was equally successful with both speech and braille. Her preferred mode was the Versabraille; but if access and cost are an issue, she can productively use the Echo.

Areas of strength:fast learner, concientious worker

Areas of weakness:none

Speed in work: fast

RECOMMENDATIONS:

Client was an exceptional Course I student. She completed the required work at an exceptionally fast pace, without sacrificing

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accuracy or quality. She continued past the required Course I curriculum to do a number of spreadsheets on Lotus 1-2-3 and to further use the VersaBraille as a stand alone and as an Apple terminal. She was equally successful using both speech and braille, but preferred using the VersaBraille. For speech output, she preferred the Echo with the Apple. Without exception, her work was done accurately and quickly. She was an eager and interested student, always a pleasure to teach.