EATT

Equal Access to Technology Training

Introductory IT Course

JAWS® for Windows

Teacher's Book - Part 1

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Preface

Summer 2003 - In the year 2000, five organizations working with blind and partially sighted people in Europe began a project partly funded by the European Union's Leonardo da Vinci programme. The project was called Equal Access to Technology Training (EATT).

The use of computer technology has been increasing in everyday life for many people in the sighted community, both at home and at work. Now with the development of assistive software, such as screen-readers and magnifiers, Windows-based PCs and the most popular applications are becoming increasingly available to people with vision impairments.

Research has established the need to promote computer literacy among people with vision impairments, especially among those aged 35 and over. EATT aims to help meet that need.

The EATT project set a number of goals. One of them was to develop and pilot an Introductory IT Course for people with vision impairments. This Teacher's Book is part of the course material for use with the JAWS screen-reader.

While well-structured books, audio material and discussion web sites are all useful training tools, they are not enough to train people with vision impairment. The most effect way is through face-to-face interaction between motivated students and teachers who are experienced in working with the vision impaired and who can operate assistive software.

Consider this material as an agenda for a series of meetings between students and teachers. The items listed in the agendas constitute what we think are minimum skills for a user to be able to communicate using a PC and assistive software.

We hope that in time many other vision impaired students in different countries will benefit from this course.

EATT aims and objectives

The overall aim of the EATT project is to make it possible for participating students to become computer literate, even if they have little or no vision and even if they have never worked with computers before.

One of the aims of this project is to produce an IT course for people with vision impairments aged over 35, motivating and enabling them to use a PC at a basic level using assistive software. The content and structure of the course is based on the experience gained from a pilot project which was run in autumn 2002.

Experiences from the pilot

People with vision impairments in Ireland, the UK, Italy, France and Denmark took part in piloting the first edition of this course. After attending the course, students were asked what they thought of it. Replies to this survey showed that the participants

- were no longer afraid of computers
- regarded the course as a chance to improve their communication with the outside world
- were motivated to learn more about computers
- felt that they had achieved something by taking the course

One of the students was happy that she could help with her child's schoolwork again. Another student wrote: "I never thought it was possible to learn - but it was".

Course structure

We recommend you form small classes of two or three people. Students with the same assistive software - JAWS or ZoomText - should work together.

Being part of a class stimulates and motivates the participants and it's possible to create real communication among the group by having students send each other letters and e-mails.

The course is comprised of eight sessions. Each session is planned as follows:

- 1½ hours work
- 15 minutes break
- 1½ hours work

The class should meet once a week. It's important that students can revise between sessions either at home or at the training centre. For those students who have access to PCs at home, the software and the PC configuration should be as close to the one used in class as possible.

The course is divided into two parts, each consisting of four sessions.

Part 1

This is the motivating part, the "see what you can do" part. The aim is to show the students that they can communicate using a PC with assistive software despite vision impairment. Part 1 deals with the following items:

- starting and stopping the PC
- Windows
- JAWS
- e-mail
- word processing
- the Internet

The students are not expected to be able to master specific topics after each session. Success and motivation are keywords in this part of the course.

The experience of people with vision impairments who have taken part in other IT courses sometimes shows that teachers tend to rush through the material. This can leave the students more or less helpless after the course finishes.

Teaching people with vision impairments involves

- giving lots of time and help
- designing well-structured courses
- being as precise as possible
- making an individual study plan for each student
- using your imagination

Part 2

This is a more thorough investigation of the assistive software and the PC in general. The aim of Part 2 is to get the students to a point where they can use JAWS to work on their own and to qualify them for further IT training.

Students are required to master the keyboard before taking Part 2 of the course.

Menus or shortcuts?

There are two different ways of passing user instructions to a PC without the aid of a mouse:

- using menus
- using keyboard shortcuts

In this course we want the students to be able to carry out some basic tasks on the computer as soon as possible. Therefore, Part 1 introduces a few keyboard shortcuts for opening and closing programs, printing documents and so on.

In Part 2, however, it's important for students to be able to perform tasks using menus. This gives them an understanding of Windows applications as a set of choices that they can make. It also allows them to investigate the program even if they have forgotten the shortcut.

The use of shortcuts is a compromise in order not to scare people from the very start. Once they have the motivation and the courage - which in the pilot project happened during Part 1 - the understanding part can be introduced

Course level

In deciding the level of this course we have borne in mind the findings of the pilot project.

The course explains what it takes to manage a PC as a minimum. It deals with the basic skills needed to communicate using a word processor and e-mail and to seek information on a PC. It also outlines the basics of the JAWS screen-reader.

Although software is constantly evolving, we believe this course will prove useful, no matter what new software versions emerge in the future.

The overall aims of the course are to

- encourage and motivate the students to work with PCs
- teach basic IT skills
- explain how to manage assistive software at a basic level

Keyboard skills

Touch typing is a great advantage for all people with vision impairments wanting to use a PC. For people who are blind or have low-vision is essential.

Since JAWS requires all user actions to be done via the keyboard, mastering the keyboard is an essential item in this course.

If a student has not mastered the keyboard after Part 1, we recommend that they take a touch typing course before proceeding to Part 2.

The material

The Introductory IT Course comprises one set of materials for ZoomText users and another for JAWS users.

Each set is divided into teacher's book and student's book.

Teacher's book

This is a description of expected aims and outcomes for the students for each session. In addition, we make some suggestions for methods and materials that you can use. You may choose to change the sequence of the sessions according to the needs of your class.

Student's book

This describes the content of each session from a student's point of view. It describes the topics to be covered in each session and includes an exercises section where the students can practise their newly acquired skills on their own. Each session ends with a frequently asked questions (FAQs) section on the material just covered.

Why print a book for blind people?

The book is available for printing for the same reason as a blind person still uses a PC monitor.

Many students will have sighted friends or family members who may be able to help them at home if they get into difficulties. They'll be more likely to help if they can see the course in printed format.

Audio files

The JAWS Student Book Part 1 is available in audio format at http://www.eatt.org. It can be downloaded and copied to CDs for the students. We expect the audio material to be the students' most useful tool when working alone.

Meet the student

Invite the students for a chat before the course starts. During the pilot course, teachers took time to meet with each student a few days before the course started. Details gleaned from those conversations helped make the course as personal as possible.

A pre-course interview allows you to estimate the participant's

- degree of vision impairment

- everyday experience of writing, reading and information retrieval
- current IT competence
- communication needs
- motivation for taking the course

The interview also allows you to tell the student about the course and to help demystify the PC.

The following is a list of topics that you should try to touch on during the interview. Don't ask each question as if you were ticking off items on a list. Try to keep the atmosphere informal and relaxed.

- What do you expect from the course?
- Where did you hear about it?
- How do you manage everyday writing tasks
- What problems do you experience with writing?
- Describe your personal writing needs
- How do you read everyday mail?
- What problems do you experience with reading mail?
- Describe your personal reading needs
- How much experience of computers and IT have you had?

Setting up Windows for people with vision impairment

The more recent versions of Microsoft Windows and Office allow for "personalized" menus that only display basic and frequently used options. This can be an advantage for sighted users, but for people with vision impairments it can be confusing. We suggest that you configure Windows and Office to display complete menus all the time.

Session 1

Session 1 focuses on the basic components of the computer and how to turn it on and off.

It's an opportunity for the students to become familiar with their machines. Some may even be a little of afraid of them. Remember, students' backgrounds can vary a lot. Some may have seen computer screens earlier in their lives; others may be completely unfamiliar with a Windows interface. Even getting used to the JAWS synthesized speech can take time.

You should also allow lots of time for practising keystrokes and keyboard shortcuts.

If you are a sighted person teaching JAWS try switching off the monitor and using the screen-reader alone. This is an excellent way of preparing lessons.

Aims

The objectives of session 1 are as follows:

Basic IT knowledge

To introduce

- the hardware components of the PC, including the hard disk, monitor, keyboard, mouse, printer and speakers
- the key parts of the Windows interface, such as the desktop, taskbar and Start menu

Keyboard training

To explain

- the structure of the keyboard, including the typewriter keyboard, numeric keypad, six pack, arrow keys and functions keys
- the keystrokes needed to shut down the PC - the **Windows logo key**, **arrow keys** and **Enter**

Basic computer skills

To show how to

- turn the PC on and off
- recognise when the PC is ready for use

Basic JAWS skills

To show how to

- launch and shut down JAWS
- interrupt the screen-reader
- launch JAWS Keyboard Help

Suggestions

Here are some suggestions for how you can teach this session.

General

- When the student starts using JAWS, have them listen out for new terms, such as "list view", "dialog box" and "radio button".
- Do not go too deep into explanations. This is still the motivation part of the course. Show how to do the task and let the students try for themselves.
- Let the students experience in as concrete a manner as possible. Have them touch and feel the different parts of the computer.
- If possible, bring examples of a hard disk, motherboard, sound card, network card and processor with you to the class. Let the students touch them. Talk about what the various components are for.
- Connect cable to different parts of the computer and peripheral devices such as printers and speakers.
- Raise and lower the speaker volume.

- Study the different sounds the machine makes when it starts up. What can you hear first? What comes next?
- Use tactile models of the user interface. Books with tactile figures of the menus and interface elements are also available.
- For English speakers, the Royal National Institute of the Blind has a number of tutorials covering the Internet, Microsoft Word, Windows 98 and Windows XP. Details are available at http://www.rnib.org.uk/pubcat/section5.htm#P904_31443
- Consider how much information JAWS should give. Let JAWS tell the user where the focus is, but we suggest you turn off Menu and Control Help at this early stage. Too much information can be confusing.

Keyboard training

- Use bump-ons on some of the keys. For instance, mark the following:
  - the letters J and F
  - the figures 1 and 0 in the figure row
  - the **Tab** and **Alt** keys
  - the figure 5 in the numeric keypad
- Start JAWS Keyboard Help using **Insert + 1**. JAWS will read the names of the keys as they are pressed. Let the students find the keys that you are focussing on in this session, namely the Windows logo key, arrow keys, Enter, the six-pack, Esc and F4.
- Games are another good way of teaching the keyboard. They can improve hand-ear coordination and can be good training for listening to synthesized speech and getting information from sound. For example, the game Battleship SV can be a fun way of teaching the arrow keys. See http://www.gamesfortheblind.com/sv/index.html.

Basic IT skills

- Ensure that JAWS is configured to launch when Windows starts up. That way, students can recognise the "JAWS for Windows is ready" message as a sign they can start using the computer
- If your students are using Windows XP ensure that you configure it to use the classic Windows Start menu.
- Let the students practise
  - starting and shutting down the computer - have them listen to the sounds it makes
  - opening and closing the Windows Start menu
  - scrolling the Start menu using the arrow keys
  - finding the Shut Down option and the Programs submenu. **Note**: The Shut Down option is called Turn Off Computer in Windows XP.
  - executing a menu choice by pressing **Enter**

JAWS skills

- Create a keyboard shortcut - **Ctrl + Alt + J** - that will allow the students to launch JAWS without using the Start menu.
- Have the students practise launching and shutting down JAWS using the **Ctrl + Alt + J** and **Insert + F4** keyboard shortcuts.
- Have the students interrupt the screen-reader using the **Ctrl** key.

Session 2

In this session we show how to reboot the machine. All users get confused when their PC crashes or hangs, so it's important to give the students the tools to solve this problem should it occur at home. Spending time in recognising the sounds from the machine is useful when the students are doing a restart.

Session 2 also covers

- launching programs from the Start menu
- an introduction to e-mail
- reading through files such as Word documents and e-mails

Aims

The objectives of session 2 are as follows:

Basic IT knowledge

To explain

- a reboot and when it is necessary
- the concept of e-mail

Keyboard training

To enable the students to find the position of the following keys and remember their names:

- Arrow keys
- Six pack
- Windows
- Ctrl
- Esc
- Tab
- Function keys

Basic IT skills

To show the students how to

- reboot the machine
- launch a program from the Start menu
- send mail to each other's e-mail addresses

Suggestions

Here are some suggestions for how you can teach this session.

Rebooting

Let the students try a regular reboot from the start menu. Also, try to provoke a crash. Teach the students to escape the Scandisk program if it starts running.

Launching a program

Have the students select **Start - Programs - Accessories - Notepad**.

The important thing is for the students to start the program. You can close it for them if necessary.

Keyboard training

Work with JAWS Keyboard Help as in session 1.

Consider whether games might be useful to the students.

E-mail

We leave it up to you to decide which e-mail program to use. You might use web mail or an e-mail application such as Microsoft Outlook. Choose the one you find easiest to work with. We suggest Outlook Express as you can simplify its layout.

Here's one way of teaching the e-mail topic:

1) Before the start of the session, create an e-mail account for each student and mail them the session details.

2) Bring two A4 size boxes for each student with you to the session, one for incoming mail, the other for outgoing mail.

3) Put a short printed letter, tape letter, or Braille letter in an envelope for every participant in the incoming mail box.

4) Discuss together how many different processes are involved in receiving, opening and reading paper correspondence - finding and opening the envelope, reading the letter and so on. Discuss the parallels between normal mail and e-mail.

5) Working on the PCs, demonstrate the inbox and how to find it.

6) Show the students that there is a mail in the inbox - the one you sent them earlier.

7) Explain the To, CC and Subject fields and show how to move between them and the body of the e-mail.

8) Create a new message.

9) Show where to find the @ symbol on the keyboard.

10) Analyse an e-mail address, for example somebody@somewhere.com

11) Help the students write their first mail to the other students in the group.

Reading through files

Start with reading by means of the arrow keys. Later you can progress to the numeric keypad.

Create a Word document, such as a short letter to the students.

Open it in Word and let the students read it.

Session 3

This session introduces word processing and explains how to use JAWS to read the title and menu bars in a program.

Give the students lots of time and lots of help. Don't expect them to be able to master any of the skills in this session.

In most cases, you will probably have to close and save documents for the students, but if they are interested in doing it themselves, show them the appropriate keyboard shortcuts and leave the menu selections to Part 2.

Aims

The objectives of session 3 are as follows:

Basic IT knowledge

To explain

- the basics of word processing
- the application title bar, menu bar and toolbar
- the text cursor

Keyboard training

To explain

- the following keys and their uses in a word processor:
  - **Enter** - create new paragraph
  - **Spacebar** - insert a space between letters or words.
  - **Backspace** - delete letters and spaces to the left to the text cursor
  - **Arrow keys** - read a document by moving the text cursor
- how to use the **Alt** key to shift focus to the menu bar
- how to use the **Esc** key to shift focus away from the menu bar

Basic IT skills

To show how to

- launch Word from the Start - Programs menu
- shut down Word
- read through a document
- type, correct and print text
- save a document
- close a document

Basic JAWS skills

To show how to

- read the title bar in a program
- shift focus to the menu bar in a program
- move focus away from the menu

Suggestions

Here are some suggestions for how you can teach this session.

Word processing

Ensure that that there is keyboard shortcut to Word - **Ctrl + Alt + W** - before the session.

Title bar

Being able to find the title bar in different windows is essential for all JAWS users. This tells them what application is in focus at a given time.

Have the students try to read the title bars in Word and other programs such as Notepad.

Menu bar

Have the students shift focus to the Word menu bar using the **Alt** key. Let them move from menu to menu using the left and right arrows and down through each menu using the up and down arrows.

Writing and deleting text

Let the students play around with Word. For new JAWS users, the idea of the text cursor can seem rather abstract. Give them time to move the cursor one letter at a time.

Allow them to practise deleting and inserting new text. Using magnetic letters on a metal board can help understand how corrections really occur on the screen.

Session 4

The aim of this session is to demonstrate the possibilities of the Internet. The detailed knowledge needed to actually use the Internet will be provided in Part 2.

Part 1 will deal with how to open and read a web page. Doing a web search is more complicated and is best suited for demonstration only.

Aims

The objectives of session 4 are as follows:

Basic IT knowledge

- To give a broad overview of the potential of the Internet
- To explain the following concepts: Internet, web browser, hyperlink, web address, web page

Keyboard training

To focus on useful web browser keyboard shortcuts, such as:

- **F6** and **Ctrl + O** - go to the Address field
- **Alt + left arrow** - navigate backwards
- **Alt + right arrow** - navigate forwards

JAWS skills

To show how to

- interrupt the screen-reader - JAWS starts reading a web page as soon as it loads. Being able to stop the speech with **Ctrl** is essential.
- read a web page using the arrow keys

Suggestions

It is difficult to specify an exact plan for this session, as the personalities and interests in the group will dictate a lot of what you cover. Here are a few ideas.

- Try to find simple web pages with few links to start with.
- Look for web pages that the class will be interested in.
- Demonstrate before the students try themselves.
- Practise reading different web pages.
- Let the students try to
  - enter the browser's Address field
  - open different web pages
  - navigate backwards and forwards through visited pages
  - read pages using the arrow keys

Keystrokes and keyboard shortcuts

The following is a list of the most important keystrokes and keyboard shortcuts in some of the main programs that the student will be using.

A complete list of keyboard shortcuts is available in the Help for the various programs.

Windows

Display the Start Menu: **Windows logo key** or **Ctrl + Esc**

Close the Start menu: **Esc**

Close a program: **Alt + F4**

Focus on the menu bar in a program: **Alt**

Exit the menu bar: **Esc**

Word

Create a new paragraph in a document: **Enter**

Insert space between letters and words: **Spacebar**

Move cursor in document: **Arrow keys**

Delete text: **Backspace**

Print document: **Ctrl + P**

Internet Explorer

Go to the address field: **F6** or **Alt + D**

Go to the previous page: **Alt + left arrow**

Go to the next page: **Alt + right arrow**

JAWS

Start JAWS: **Ctrl + Alt + J**

Stop JAWS: **Insert + F4**

Interrupt JAWS: **Ctrl**

Launch JAWS Keyboard Help: **Insert + 1**

Read the title bar of a program: **Insert + T**