

# Chapter 4

## Talking word processors and speech output utilities

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## 4 TALKING WORD PROCESSORS AND SPEECH OUTPUT UTILITIES

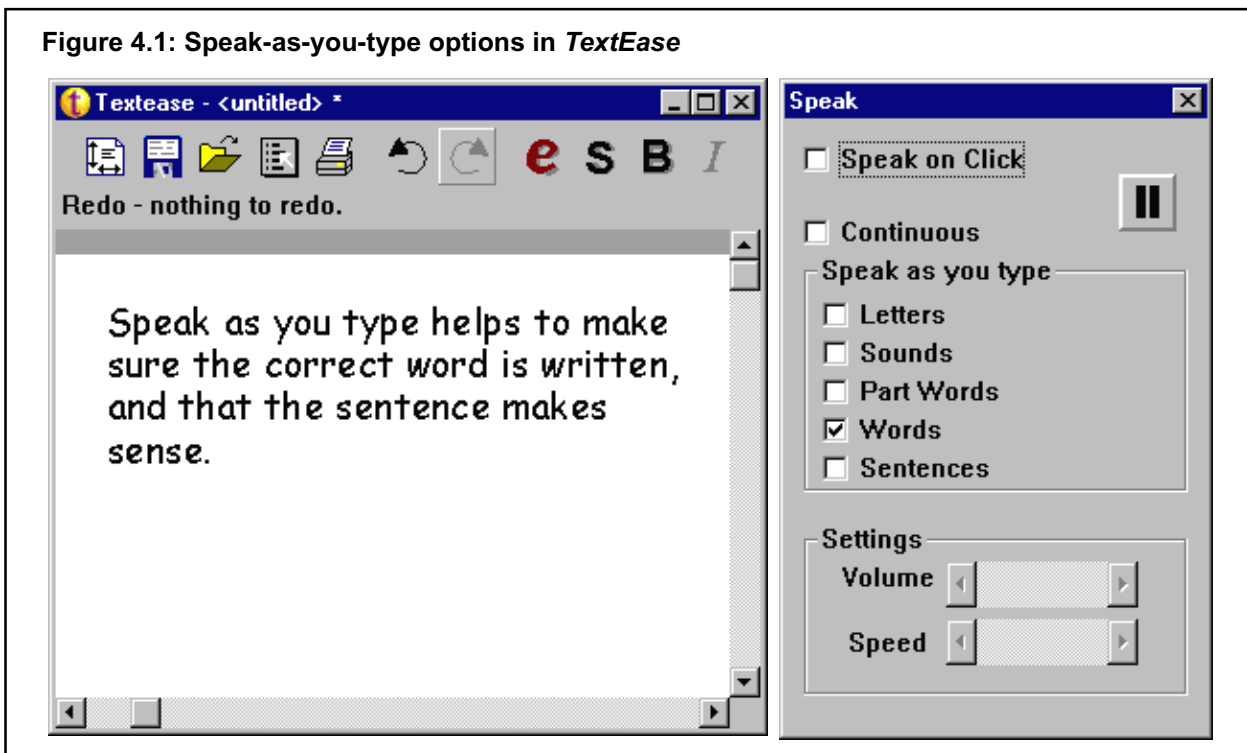
“When I read I don’t know the vowel sounds but when I spell the word on the [talking] computer it sounds it out so I know. It’s making me think of sounds more.”

(Clifford & Miles, 1994, p. 12)

### 4.1 Speech output programs

Talking Word processors and speech output utilities enable students to hear as well as see their text. There are two types of speech output. *Speak as you type* means that the computer echoes back letters, words or sentences as they are typed. *Speak marked text* lets the writer highlight a word, sentence or paragraph and read it out. Both types of auditory feedback can help writers to identify errors in sequencing of ideas, grammar and spelling in their compositions. Students can check their work through listening to and following the text. This makes it easier to identify and correct spelling errors and missing punctuation, or edit and add extra text. When using a talking word processor in classrooms it is advisable to encourage the pupil to wear headphones to avoid distracting other people.

Figure 4.1: Speak-as-you-type options in *TextEase*



Some word processors have both types of speech output built-in (e.g. *Write Outloud*, *TextEase*) while others only have *Speak marked text* (e.g. *ClarisWorks (Mac version)*). You can add speech output to mute word processors with a speech utility like *textHELP!* or *Penfriend*. Tables 4.1 and 4.2 list talking word processors and utilities to add speech.

In general, the speech in talking word processors is easier to use and works more effectively than speech added with a utility program. It is also normally more reliable – since there is only one program running, rather than two – and often cheaper overall. For primary school use in particular, a talking word processor is probably a better solution than adding a speech output utility to an ordinary word processor. The

<b>Program</b>	<b>Machine</b>	<b>Description</b>	<b>Cost</b>	<b>Supplier</b>
<i>Clicker Writer</i>	Win	Talking word processor supplied with the Clicker 3 on-screen grid program. Supplied with activities and 2,200 pictures/symbols. Switch access version available.	£80	Crick, Inclusive, Semerc, AVP, REM.
<i>Inclusive Writer</i>	Win	Word processor with speech output plus: word/picture/symbol grids; pictorial spellchecker; 3,500 pictures/symbols; ready-made activities. Switch access version due in 1999.	£80	Inclusive, REM, AVP, others
<i>IntelliTalk</i>	Mac / Win	Talking word processor. Simple to use, but no spellchecker or graphic handling.	£39	Inclusive, KCS
<i>Pages</i>	Acorn / Win	Simple talking word processor / DTP program, with spellchecker and word banks.	£49	SEMERC, REM, SCET, various
<i>TalkWrite</i>	Acorn	Simple talking word processor/DTP program for primary schools. Spellchecker.	£60	Resource
<i>Talking PenDown</i>	Acorn / Win	Talking word processor / DTP with spellchecker and word banks, suitable for 8 to 12 year olds.	£54	Logotron
<i>Talking TextEase</i>	Acorn / Win / Mac	Very popular, easy to use talking word processor / DTP program suitable for all ages. Word bank & spellcheck.	£65	SEMERC, Inclusive, REM, SCET, etc.
<i>Write:Outloud 3</i>	Mac / Win	Simplified talking word processor, with excellent built-in Franklin spellchecker system.	£71 <sup>1</sup>	Don Johnston, SCET
<i>Writer's Toolkit</i>	Mac / eMate / Win	Provides a structured writing environment supporting imaginative, personal and functional writing. Speech output and good spellchecker. Training video available.	£40	SCET, TAG

<sup>1</sup>Schools in Scotland can buy *Write:Outloud* from SCET for £16 (license), £2 disc and £16 for the manual.

<b>Program</b>	<b>Machine</b>	<b>Description</b>	<b>Cost</b>	<b>Supplier</b>
<i>!Speak / TextReader</i>	Acorn	Speech output and feedback for Acorn programs. Includes <i>TextReader</i> , a simple wordprocessor with an excellent spellchecker.	£20	Jonathan Duddington
<i>Talking Word for Windows</i>	Win 3.1 only	Speech output and feedback, talking spellchecker, word banks and a simplified menu bar, for Word 2 or 6.	£50 (for 5 users)	Logotron, REM
<i>Talking First Word</i>	Win 95	Adds speech output and feedback, talking spellchecker, word banks and a simplified menu bar, to Word 2 or 6.	£60	Research Machines
<i>textHelp!</i>	Win	Good speech output and feedback for any windows program. Also has spellchecker and predictor.	£85	iANSYST, REM, SEMERC, Inclusive, etc.
<i>Penfriend for Windows</i>	Win	Primarily a word predictor, but also has speech feedback and output.	£60	Design Concept, Inclusive, etc.

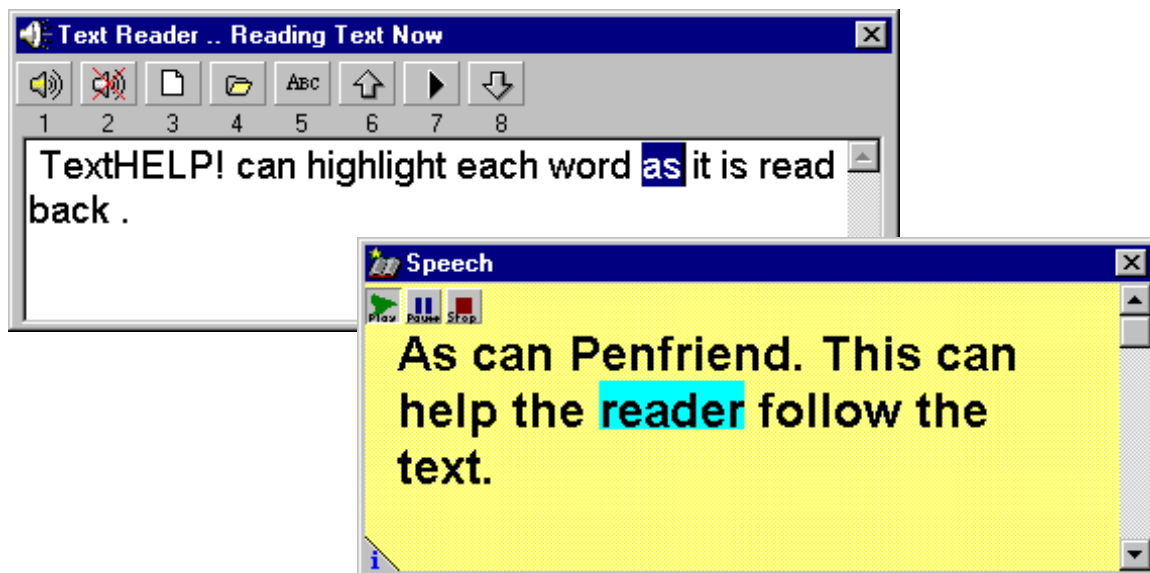
speech output utilities are more suitable where it is important to use a particular 'mute' word processor, or if speech is required with several applications – such as a word processor and email. *TextHELP!* in particular has excellent speech output tools which can be used to read almost anything on screen - not just highlighted text - such as words offered in spellchecker and speech recognition program correction lists.

## 4.2 Using speech output for proof reading

Poor spelling, grammar and lack of sentence structure can make text difficult to read. Speech output may help the writer to identify mis-spelled words, and remind and help him or her to add punctuation and capitals at the correct points.

Simple proof reading, where the text is highlighted and then spoken out, can be done with even the most basic speech output tools. The more sophisticated programs can read out the highlighted text by sentence or paragraph, and highlight each word as it is spoken to help the reader to follow the text.

Figure 4.2: Speaking marked text with *textHELP!* and *Penfriend*



Another useful technique is to use a talking word processor with a 'click and speak word' facility, such as *Pages* or *TextEase*. This lets the writer click on each word in the sentence, in sequence, to work out the position of full stops and other punctuation, and edit the "and"s out, themselves. 'Click and speak' is one of the most useful speech output facilities for this sort of application: it is much quicker and easier to just click on a word, than to first double click to highlight the word then click on another button to speak the word out.

## 4.3 Using speech output to develop spelling and literacy skills

The book mainly discusses technology to compensate for writing difficulties, but in many cases it can also be used to improve basic literacy skills. Chapter 11 describes several projects (Clifford & Miles, 1994; Hunter, 1995) which have developed teaching programmes using talking word processors, that have had considerable success in increasing reading and spelling abilities in children.

**Figure 4.3: Case Study — using a talking word processor to support grammar**

A piece of writing by Graham was presented as being unreadable because of the handwriting. However was it really the handwriting that made it so hard to read?

It was then typed exactly as it had been written.

On Sunday I went to Wales to stay for a week but the most iksiting paer Ireland we went on a ferey and when we got year we went to the book of Ke was boring so we went to the guinness iksperance at it was good there w and gaems and it shot you how to make it.

This work turned out to be difficult to read because of these factors;

¥ handwriting (not reproduced here)

¥ spelling mistakes

¥ lack of full stops

¥ some non sentences

Graham was asked to put in the full stops himself.

On Sunday I went to Wales to stay for a week but the most iksiting paer Ireland. We went on a ferey and when we got year we went to the book of was late. It was boring so we went to the guinness iksperance. It was good vibos and gaems and it shot you how to make it.

Through using the click word to speak facility in *Pages*, he was able to locate the places where the full stops went. He was able to edit the text into sentences. This made his text far more readable even before the spelling was tackled.

#### 4.4 Using speech output to support reading

Speech output can also be used to help pupils who have difficulty reading, either because of visual, perceptual or linguistic difficulties. Visually impaired users have accessed computers with *screen readers* for many years (*Access Technology, RNIB 1998*), but it is only relatively recently that screen reader systems have been specifically designed for people with reading difficulties.

The simplest method of using speech output to read is to load a text file into the talking word processor, or use a speech output utility to read the text on the word processor, from a CD-ROM, or from the World Wide Web.

If the text you want to read is not on disc it is also possible to scan in material from a textbook or worksheet, use *OCR* (optical character recognition) software to convert it into text that the computer can handle, and then read it out using the speech program. Basic versions of standard OCR software like *OmniPage* and *TextBridge* are often supplied with the scanner and are adequate for many purposes, but often have difficulty converting unusual fonts or complicated layouts into readable text. The full versions of the OCR programs are much better, but also more expensive. If you have a basic 'lite' version of almost any OCR program, you can upgrade to the full version.

There are also two scanning and reading programs which are specifically designed for people with reading difficulties: *Kurzweil 3000* and *Wynn*. Both have good OCR systems which can convert the scanned image into text reliably. The reading tools let you easily adjust the text font and size, and text and background colours. When the programs are reading, they can highlight the current sentence and the word being spoken, and the highlight colours can be chosen to suit the user. They also have study support tools for bookmarking and adding typed notes and 'voice annotations' (i.e. recording your own spoken notes), plus spellchecking and thesaurus facilities.

These programs are more expensive than a basic OCR program plus a talking word processor or speech output utility, but they also offer many more features. Someone who only needs speech to read the screen occasionally might be satisfied with a talking word processor, or utility such as *textHELP!*, but students who need to study a lot of text should definitely consider one of the specialist packages.

Program	Machine	Description	Cost	Supplier
<i>Kurzweil 3000 Scan/Read colour</i>	Win 95/98, NT	Scans in colour and has the full set of study and reading tools. OCR, high quality speech, word highlighting and magnification, electronic dictionary with spoken definitions, spellchecker, thesaurus, synonyms, web reading facility, text and voice note-taking, bookmarks, word prediction.	£725	Sight and Sound, iANSYST
<i>Kurzweil 3000 Read Only</i>	Win 95/98, NT	All the features above apart from the scanning function.	£175	Sight and Sound, iANSYST
<i>Wynn with OCR</i>	Win 95/98, NT	Scans in colour and has reading and study tools. OCR, speech output, word highlighting and magnification, word definitions and thesaurus, text and vice notes, bookmarks, control over spacing between letters, words & lines.	£673	Don Johnston Special Needs
<i>Wynn Reader</i>	Win 95/98, NT	Version without scanning and OCR facility.	£299	Don Johnston Special Needs
<i>Caere OmniPage Pro 9</i>	Win 95/98, NT, Mac	Scanning and OCR program. Reputed to be slightly faster and more accurate than <i>TextBridge</i> and works better with <i>textHELP!</i> . Needs <i>textHELP!</i> or other program for speech output.	£68 <sup>1</sup>	Various, including iANSYST
<i>Xerox TextBridge Pro 98</i>	Win 95/98, NT, Mac	Good accurate scanning and OCR program.	£66 <sup>1</sup>	Various, including iANSYST

<sup>1</sup>These are the "competitive upgrade" prices for upgrading from a basic OCR program, usually supplied with the scanner — the "full" prices are £395 and £375 respectively.

## 4.5 Talking word processor and speech output summary

*Talking word processors and speech output utilities are useful for pupils with writing difficulties because they:*

- ✓ confirm the writer has typed the correct word, or sentence, as it is written;
- ✓ may help the writer to spot mis-spellings;
- ✓ may help with sentence structure;
- ✓ may help the writer to improve sense and meaning;
- ✓ may help the learner read text from the computer more effectively;
- ✓ can be used to help improve a learner's basic literacy skills.

*Talking word processors and speech output utilities are worth investigating if:*

- ✓ the writer misses out punctuation;

- ✓ the writer produces poorly structured sentences, or text which does not make sense;
- ✓ the writer has difficulty reading back what they have just written;
- ✓ the learner has poor phonic understanding and blending skills.

*Things to look for in a talking word processor or speech output utility:*

- ✓ clear speech;
- ✓ quick operation by mouse and keyboard;
- ✓ 'click to hear word' facility;
- ✓ colour and font control;
- ✓ highlighting of word and sentence as it is spoken;
- ✓ study support tools (for learners who want to use the system for reading and study).