

Sorting through the features of scan and read systems for persons with learning disabilities – Part two: Writing, study skills, and test taking features

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As we continue this two-part description of the features of scan and read systems, we'd like to remind you that our focus is on the products that have the scan engine built in, not all products which can perform as text readers. Products that we'll be using as examples are Kurzweil 3000 version 8 (WIN), Kurzweil 3000 version 2 (MAC), Read & Write version 7, Read & Write Gold version 7, Scan and Read Pro version 6.01, Test Talker version 1.1, Word Smith, and WYNN (What You Need Now) version 3.5. Keep in mind, we are not recommending any one product over another one, this is in relation to becoming more informed of existing features to take into consideration when selecting a scan and read system. In the time since the first article was published, it has been brought to our attention of yet another scan and read program that is available from Colligo called Scan N Talk. We have not had the opportunity to trial the program as of this writing, but we encourage you to visit their Web site at <www.colligo.us> to find out what features it has to offer.

Writing features

Many people think of the category of scan and read software as a reading tool and often don't think about utilizing those same tools to benefit individuals during the writing process. First of all, the scan and read programs provide text to speech, so after the individuals have created their text, they can use text to speech to proof what they just read. Sometimes individuals benefit from text to speech in this correction process, as they will hear if something was typed in grammatically incorrect or if a word may have been misspelled. Some individuals also hear if they omitted punctuation, as the program does not pause where it should. Some individuals may benefit from the ability to change the reading unit. So, if they have it set up to do self-paced by sentence and they omitted punctuation, they can sometimes hear that it didn't pause after a complete thought and therefore make the appropriate change.

In the area of text to speech, the other feature that may assist some people in written production is the ability to turn on speak as I type. The speak as I type settings are usually set up to provide auditory

feedback when the individuals types characters, words or sentences. By turning these functions on, they will either hear each key they type on the keyboard, each word that is entered when followed by space key and each sentence when they insert a punctuation mark. Sometimes the programs use slightly different terminology, such as key echo, word repeat, or speak on each letter, word or sentence. The feature to have it speak each sentence has been useful for individuals who struggle with constructing a sentence and when they reached the end of the sentence, they weren't sure where they were going next in the thought process. If they hear their sentence repeated after construction, it sometimes gets them attending to where they were going next in the writing process.

Another feature that may assist in the writing process is the ability to look up the definition of a word or to look up synonyms of a word. Having these tools immediately available may assist a person who is constantly using the same words in the writing process. Some of the scan and read programs have these tools as a separate program and some have them built in. In some programs you can copy and paste the information from one window

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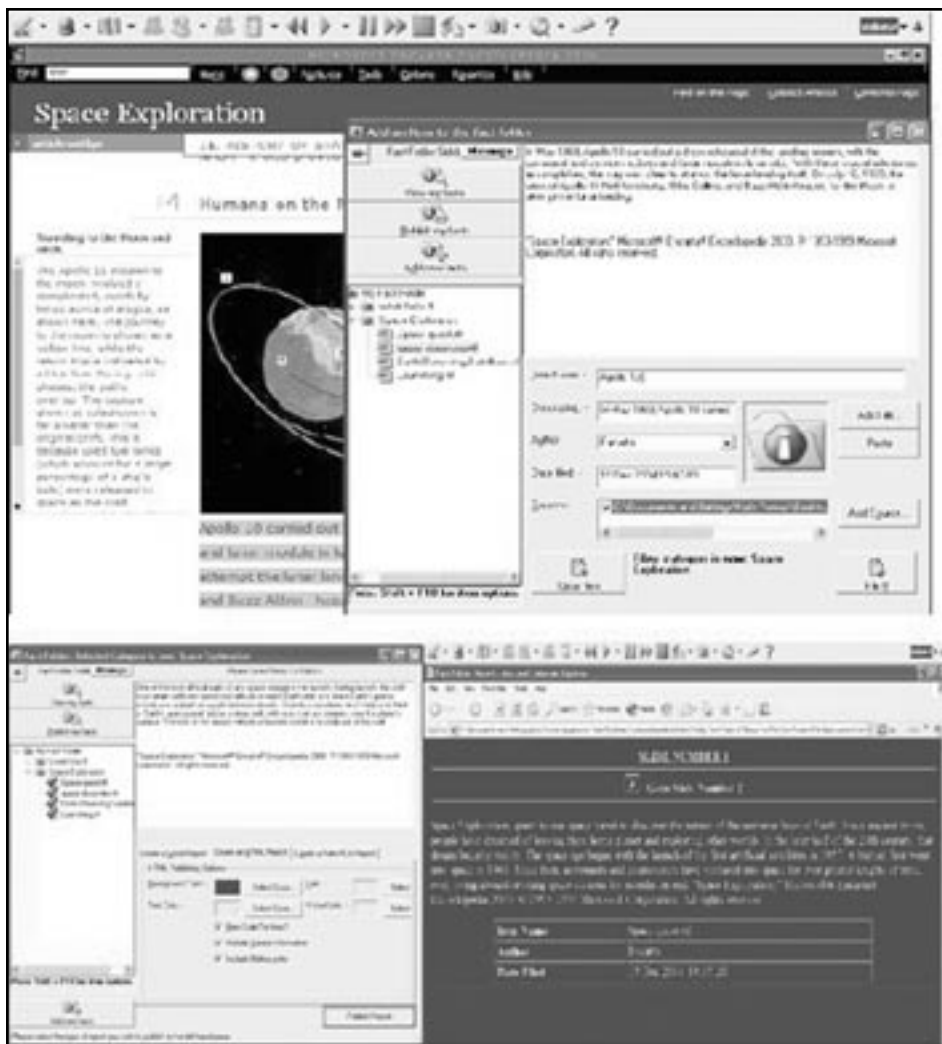


Figure 1: The Read & Write Gold Fact Folder – data collection, publishing my facts and generated HTML report.

into the next and some allow you to do drag and drop of text. The word support tools that are available to individuals assist those that may have difficulty with limited language or word retrieval and therefore assist in expanding their vocabulary. Some of these programs tap into a variety of dictionaries, such as a basic or standard dictionary, and some have the ability to tap into language dictionaries that may assist individuals whose primary language is not English.

The scan and read programs also provide auditory support in the area of spell checking. This is helpful for those individuals that may have initial consonant sounds or recognize word endings but cannot distinguish the difference between simple and sample in a word list. The auditory preview allows them to hear the word and therefore make the appropriate choice from the list. The ability of the spell checker to successfully suggest the correct spelling will vary from program to program.

When you are determining which program works best for an individual, it's nice to be able to have a sample of their writing and see how well the program works in suggesting correct words.

Over the last few years, we have seen changes on how the scan and read programs have been handling the use of word prediction. Word prediction may reduce the number of keystrokes that a person has to type by predicting a word list that may contain the word they are typing. The individual can then choose the word by either clicking on the number or typing a keystroke to have that word entered into their text. Word prediction has been used more recently to assist individuals with word retrieval. For those students who are always using the same words when they write because those are words they know how to spell, it may assist in expanding written vocabulary. Each of the companies handle word prediction

in different ways, so if this is an important feature you need to look at, you can receive a demo copy of the program and check it out. Many of the word prediction programs will learn and predict words based on frequency of use. So the more often a word is used or chosen from the list, the higher on the list it will appear. Some of the scan and read programs offer more flexibility for the creative or phonetic spellers. This is achieved by going in and designating the program to predict certain exceptions, such as if the user types *?f?* also predict *?ph?* words or if the user types *?ij?* predict *?edge?*. These exceptions can be customized based on the individual user. The other feature you will want to explore is the use of custom prediction lists or topics. This allows you to temporarily activate a vocabulary list that will place the words in that vocabulary list higher in the prediction window. When vocabulary list or topics are turned on, it allows the individual to use vocabulary from the list and be successful at writing using vocabulary centered on that topic. Refer to the associated image of Scan and Read Pro and its word prediction options (Figure 4, page 17). One other feature that has been incorporated into some word prediction windows is the use of color-coding the vocabulary list in the word prediction window. This visually discriminates the word in the topic prediction list from those in the common prediction list.

In the area of word prediction one other thing that individuals will want to consider is the ability to use an existing stand-alone word prediction program with their scan and read program (ie. CoWriter, PenFriend, Sooth-Sayer, Word Q, etc.). If there are features that better meet an individual's needs and they already have a strong writer file, many of the stand alone word prediction programs can interface with the scan and read programs. A trial in all of the writing portions of a scan and read program, not just the writing in a blank document, but in the other features such as notes, is important to check and not just assume it will work.

The last thing that we will talk about in regards to features that benefit individuals in the writing process is to look at the ability to do content writing from an article they are reading. Some programs allow just one active window at a time. Other documents can be opened but the individual can only see one window at a time. This is beneficial for individuals who are easily distracted and

where having multiple windows open may be visually confusing. Some scan and read programs allow you to tile windows, therefore having the source document that you are reading from open while having the text document you are typing into on the screen at the same time.

Study skill features

Of the features described to this point, many have been reworked from previous types of technologies. Talking word processors, text read out loud, and word prediction have been in the assistive technology market for quite some time. They are being tweaked by the scan and read system publishers to meet the needs of the population of individuals with learning and reading disabilities. One of the more original features of scan and read systems is the entry into the support for studying, providing a variety of options meant to be used in the comprehension of the text being read. Options are available, such as highlighting, note-taking, fact folders, voice messaging, book-marking, and word supports such as talking dictionaries, thesaurus, and synonyms. These features can be used to prepare the reading material, to pre-read or “skim” the text before reading it in its entirety. Some features are meant to be used during the reading process to take note of important information while reading, to indicate main ideas and to have words defined. Those same features can be used after the reading has occurred, to summarize and to bookmark areas to return to when preparing a report or studying for a test.

Using the term “highlight” within a document can be tricky. Are we considering the features of having the words or sentences highlighted as they are read out loud? Or, is the act of highlighting the use of selecting key text and adding a color to the background of just that text? In this explanation of highlighting, we’ll describe it in the study skill approach; the act of adding color to text to indicate its importance. Highlight options may be built in to the scan and read program or come from the companion product, such as using the highlights within Microsoft Word with the manipulation of highlights provided by Read and Write Gold. How you use the available highlight options will be determined by the reading material and the need of the individual using the product. In some of the products, you can highlight text ahead of the reading experience of the student, then the student uses a read by



Figure 3: WYNN Scanned file for reading and student created outline – writing toolbar and outline options.

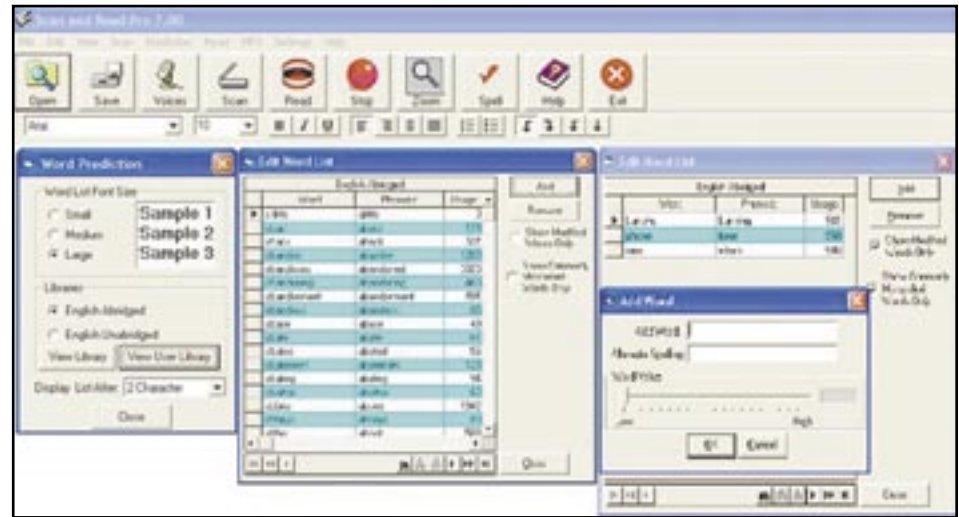


Figure 4: Scan and Read Pro word prediction options for editing prediction library word lists.

highlight option to skim through the text or to cut down on the amount of reading to be done. Electronic highlights can also be used in the more traditional study approach of highlighting key ideas. This can be done by the student while reading, or material can be prepared ahead of time with new vocabulary words in highlight and/or new concepts indicated to the struggling reading comprehender. Some products provided multiple colors of highlights and the ability to create new documents of just the highlighted information. You may be able to list them by color or in order of occurrence in the document. You may be able to extract the highlights and create a beginning outline using color to indicate the level within the outline, such as pictured in this image of a Kurzweil 3000 document going through the levels of highlight, set study skill options and extract highlights into a color coded position on page hierarchy (Figure 2, page 17).

Using this highlight listing or extracting can be an entry strategy into the process of note-taking, not an easy skill to learn or

teach, especially when working with individuals who struggle with the reading and writing of content area text. Some individuals take notes best in an outline. They can use the highlight options as mentioned previously or the built-in outlining features such as in WYNN. WYNN can create an associated outline with the reading document. See an example image (Figure 3, page 17). There are some unique note-taking features in the scan and read systems. Read and Write Gold has a feature called Fact Folder. This is an option with which the user can select key text and images from the Web, electronic databases or in other electronic material and drag it to the Fact Folder. This folder stores these bits of information to be later published into a document – an HTML file or PDA Palm file (Figure 3, page 15). Within WYNN, the notes option is on the pink, study toolbar. You can use it to open a note to be associated with a particular section of text. You can also copy text from the Internet or from a WYNN text document and paste that into the note. The speech output feature applies within the note.

Once a note is created, a visual marker is added to the text to indicate to the reader that there is more information or direction to be read. In Kurzweil 3000 there are two types of text notes, the Sticky and the text-based note. Both can be controlled by the user or the facilitator. Here too, speech output applies. The Sticky is similar to how you would use a Post-It on a piece of paper or within a book. Once created, it can be moved around on the image document to any location. It visually sits “on top” of the document. It is read separate from the document and can be used to instruct, leave direction to the reader or rewrite a passage of text, “covering the original passage”. The text-based note is a text box dropped on top of the image and can be read right along within the document itself. It can be used to supplement an instruction, to answer questions and other applications that impact the read and study experience.

WYNN and Kurzweil 3000 also have the feature of adding voice notes within the document. The voice note is recorded speech; not to be confused with voice recognition. The feature as it exists in this study skill approach is to open a window with a voice recorded message. People will use this to leave directions or a definition for a reader. We’ve also experienced this used as a place for the reader to summarize their reading up to a point in the text and as a mode to answer questions. As you explore the note-taking options, we encourage you to look at how note-taking is taught and practiced and translate these paper/pencil strategies into electronic strategies which may be more motivating and more easily manipulated for multiple tasks.

Study features described to this point have focused on the aides to comprehension. The scan and read products also present features for building vocabulary. These are the word support features that you find in the menus. Word support features that exist are items such as talking dictionaries, dictionaries of different comprehension levels and dictionaries which will define a word in a different language. Some products have the ability to have pictures associated with words that may aid in the visual support to vocabulary. The synonym feature is one that some users prefer over the dictionary because it is a list of similar words and doesn’t contain all of the language associated with defining a word. Also look for the feature of indicating homonyms, those potential trip-ups for

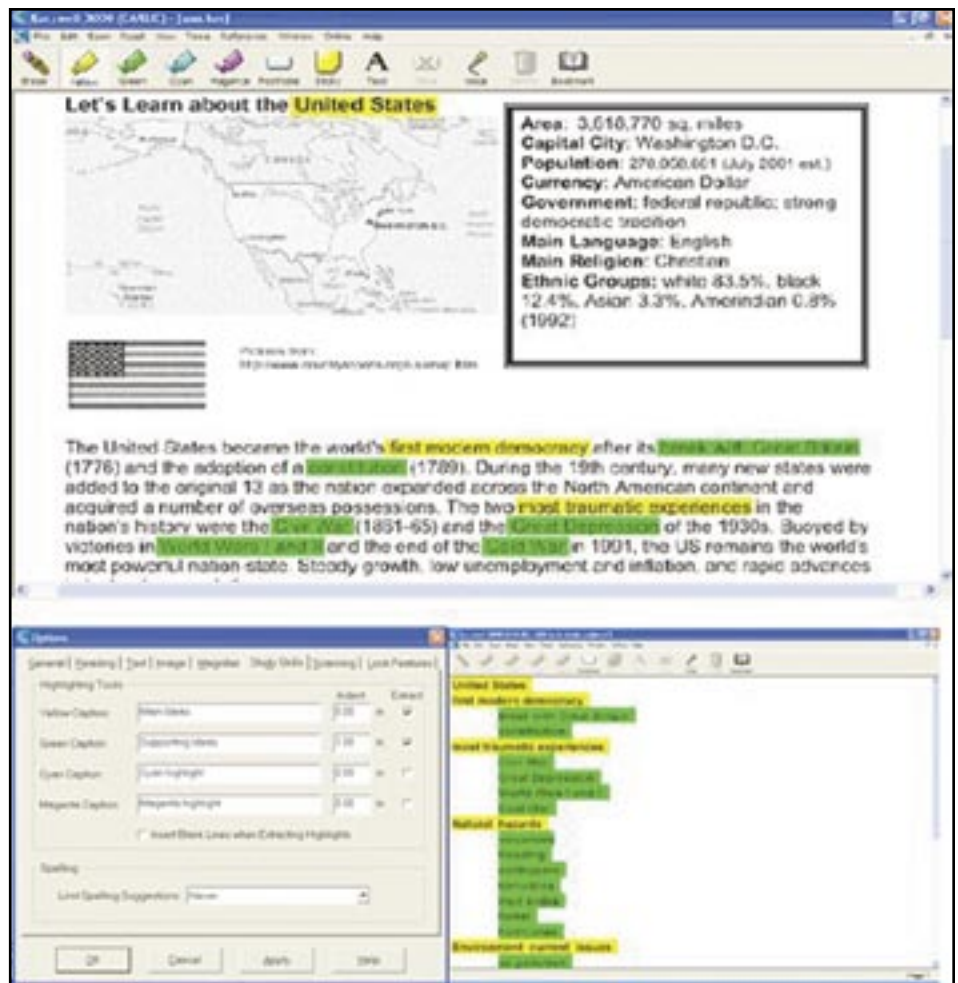


Figure 2: Kurzweil 3000 study skills toolbar – example of using highlights to indicate main and supporting ideas, extracting highlights to create a study guide or turned into an outline for writing.

struggling readers. One last feature to look for is the syllabication, a preference for some readers who want assistance with decoding and listening to the sounds of a word.

Test taking features

Many of the features mentioned in the Reading, Writing and Study Skills sections are used in the process of test taking via scan and read product. At this point, one product, Test Talker, was created uniquely for the test-taking situation. Of course, before using any scan and read product in a testing situation, we must mention that the testing time should not be the introduction to the scan and read product to the user. A user should be familiar with the operation of the product so that the newness or maneuvering of the product does not interfere with, and thereby impact, the test taking experience. In test preparation, facilitators will use features to set up the test such as automatic finding of fill-in-the-blank lines, defining multiple choice, matching and

true/false situations of text. In Test Talker, multiple choice and matching test items can have associated clickable boxes placed next to the answer set. Other products may rely upon the use of a highlighter to indicate the answer from a multiple choice or true/false set. Still others may use the voice or text note features as a way for the user to respond to short answer or essay questions. Kurzweil 3000 has a drag and drop feature where a user can select the answer from a word list and drag that word to the answer blank. As we in the field continue to use these features and provide feedback to the publishers, revision of current features and added options will occur. Indicators of that is the ability we have in some products to customize the user’s toolbar to present only the needed items, and in some products the ability to “lock out” users from features such as spell checking, dictionary support, etc. These options, as in any other testing situation, should be planned and practiced prior to the test.

As we conclude this description of the features of scan and read systems, we truly do not believe that one product is better than another, that one product “wins” the feature race. It is critical in making your decisions that you look at the needs of the individual you are working with, the reading, writing, testing, studying function that they are trying to accomplish and match the appropriate tool that will meet those needs. We often tell people when determining a program that an individual will use, it is not about which one you personally like over another, but which program is going to best meet the needs of the individual who will be using the program. Friendliness of company staff, although important, should not be a deciding factor. We are shocked when people share with us that they have totally abandoned consideration of a product because they don't like someone at the company. Staff or parental desire should not prevail over consumer and situational preference.

As we have pointed out a variety of features to take a look at, do keep in mind that as technology advances, the companies continually publish new versions so we constantly need to be going back and taking a look at what features changed or what has been added. As in any other assistive technology area, no one person can know everything there is to know, use all of your supports, take advantage of the demo periods or training CDs. Check into on-line discussion groups and tutorials. And for the benefit of the end user, keep all products in your set of items to be considered. What you know today about a product will more than likely need to be revised in the future.