

The importance of word prediction and speech feedback

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The appropriate use of assistive technology can remove barriers and enable struggling and reluctant writers to gain more equitable access to successful learning experiences. Word-processing is possibly “the most important application of assistive technology for students with mild disabilities” (Behrmann, 2002, p. 2) because of its potential for addressing barriers in mechanics, process, and motivation for writing. The success of such tools depends on how they are matched to the user’s abilities and then used. Technology can help boost abilities and bypass or compensate for disabilities; but, the technology cannot (and should not) write for them.

To overcome or compensate for problems, students require well-designed instruction and assistance tailored directly to their needs in order to realize their true academic and personal potential in written communication. Effective instruction – combined with technology – may help, by providing a rich, active, and highly individualized interaction between the student and the educational environment.

At the most basic level, students with impaired or developing language skills are held back by their failure to recognize the words they wish to use. We know that their written language can be improved significantly through help in word finding, word fluency, sentence structure; and word prediction. Two key tools that may provide more immediate cuing to the basic elements critical to effective written expression are speech synthesis (text-to-speech, “readback”) and word prediction.

To numerous computer users with impaired writing skills, the ability of the computer to “read to me” has had, in our experience, more positive comments and impacts than any other single tool. Many writers – especially those diagnosed with a “learning disability” – have aural (spoken) vocabulary and language skills that are superior to their visual vocabulary and language skills. Thus, having this feedback available to them as they write bolsters their aural-spoken-vocabulary strength to assist their visual language skills. It seems to provide writers with “bimodal feedback” (their eyes see the words on the desktop; their ears hear the words that they have typed). This type of feedback increases the chance that what has been written “makes sense”; and, it encourages the writer to attend more to what has been written. The result of this can result in their taking more time with their writing, which we know can result in their writing longer and composing more complex pieces of writing. The versatility of speech synthesis in the development of skills in both reading and writing makes it a tool that can be used with much flexibility.

Having word prediction available is like having a dictionary, vocabulary list, grammar checker and thesaurus working alongside the writer and being available whenever it is needed. But instead of these aids being in book form on a shelf, or tucked away in a desk, word-prediction technology makes them readily available on the desktop. At its simplest, word-prediction is really “word-completion”; it helps the writer to complete a word that has been started. Programs such as WordQ enable word prediction based not only upon the word already being typed but also upon the sentence that is emerging. Thus sentence structure acts as an additional cue.

So, these two ‘tools’ working in tandem, as they do with WordQ, can provide a powerful assistance to any writer: struggling or not. “Can,” but not necessarily “will.” While many designers will have us believe that their software/writing programs have all the features needed to make (struggling) writers into effective ones, we must remember that there is no “one size fits all” in assistive technology. While computer-based instruction can motivate and allow reluctant writers to take control of their own learning and to develop a sense of confidence, ownership, and independence, it is vital that we choose features/tools that are matched with the skills and needs of each user. Their value depends on the match of their features to the needs of the learners and the ways in which they are implemented.