

WordQ Writing Software

Fraser Shein, PhD, President, Quillsoft Ltd.
Vivian Tsang, PhD, Chief Science Officer, Quillsoft Ltd.

What is WordQ?

WordQ is a simple, yet powerful, writing tool that works on top of any PC or Mac desktop application where you write. Word prediction and speech feedback are used along with associated strategies to help you improve your writing, particularly spelling and grammar. All writers could benefit from using WordQ. The goal is to help you create better quality written work with greater independence, confidence, and ease.

There are other products with similar features, and some even have a multitude of additional features (often unused), just like a Swiss army knife. You will benefit from any product if you use it. Arguing over which one has the best word prediction, the best voice, or the most features is irrelevant because it comes down to use. All modern products include state-of-the-art technologies and none can read your mind or write for you.

However, there is a difference.

WordQ distinguishes itself with its simplicity-of-use and effective strategies employing a focused set of key features (word prediction and speech feedback). Together these promote independent and active use without distracting you from the writing process. Its simplicity is what encourages its use so that you do benefit. WordQ is intended primarily, but not exclusively, for use when writing and editing drafts.

By design, with input from seasoned educators, WordQ does not write for you nor fix all your mistakes. You must still do your own writing but WordQ makes it easier for you to independently work more effectively. For example, WordQ helps you, the writer, identify mistakes that you cannot visually detect. Who hasn't experienced problems reading their own work without seeing their errors?

How do you use WordQ?

First, start both your writing application and WordQ. After a one-time initial step of choosing your language, vocabulary, and voice for speech feedback, WordQ displays a small toolbar with four buttons above your application and a box (which show a list of predictions) just below the text cursor. This box follows the text cursor in whichever application is being used. You can later alter the appearance of the list if desired.

Predicted or suggested words are displayed in a vertical or horizontal list as you type. You can choose to have the prediction list track just below the text cursor or have it fixed in place. (Most users prefer it fixed so as to be less distracting.) If your desired word is in the list, select it by typing the number in front of it, or by pointing and clicking. If your word is not in the list, continue typing until your word appears. You can

browse the list and hear each word spoken to help you choose a word. As soon as you select a word, it is entered into your application and then spoken aloud for confirmation.

After choosing a predicted word, the next most likely words are displayed. You don't have to select words that WordQ suggests. You can continue typing and refer to the word list only when you need assistance. In fact, many experienced WordQ users don't use word prediction for every word—just difficult words. After completing your sentence, it is spoken back and WordQ automatically adds a space and capitalizes the next word. Any combination of speaking back letters, words, and sentences may be used as you type.

Speaking back letters helps you hear whether you typed the correct letter, although this is not usually needed. Speaking words helps you hear whether you made the right selection. It also helps you hear spelling mistakes as a word generally will not sound right if misspelled. When vowels are left out, the word will be spoken letter-by-letter. This complements underlining errors done by some word processors. Speaking sentences helps you hear how words flow in a sentence to detect grammatical and content problems. Also, if you never hear a sentence spoken, this is a cue that you have forgotten to use an ending punctuation.

Wherever you position the text cursor in your document, WordQ shows appropriate predictions, even when the cursor is in the middle of a word. This is useful while editing and to see different word endings.

WordQ word prediction

Word prediction isn't based upon reading your mind but rather on how words are connected and used by other people. This data comes from large amounts of text contributed by many writers. WordQ uses its own unique algorithm and data gathered from the Web, newspapers, journals, and encyclopedias. Given that such text may include spelling variations, mistakes, cultural biases, and inappropriate (for students) word usage, a significant editorial effort goes into the development of our dictionaries. We also create separate dictionaries for distinct language locales, e.g., Canadian, US and UK spelling. As any one locale may accept different spelling variations, we choose the most current predominate spelling.

WordQ uses a two-stage prediction model. In the background is a large dictionary incorporating data on word relationships and usage. In the foreground is a user vocabulary representing your own word knowledge (i.e., imagine the words that you know). Different starting levels of vocabulary correspond roughly to age and/or writing level. WordQ constantly adapts

and grows as you use words just as in real life. Prediction is first based on words within your vocabulary, giving emphasis to familiar words. If you need to type a word outside your vocabulary, WordQ considers and suggests words from the background dictionary. This is similar to looking up a word in a dictionary.

This brings up a common problem, that is, if you don't know how to spell a word, how can you look it up in a dictionary? When you have trouble reading and associating the sounds of letter combinations, it can become impossible to look up a word. With WordQ, you explore letter combinations using word prediction and see and hear what words result (as words in the prediction list can be spoken). This follows a similar strategy to looking up words in a physical dictionary where you flip the pages forward or backward according to alphabetical order. With WordQ, you are now using listening skills to help—further aided by word prediction that reduces the set of potential words to consider.

A creative spelling prediction algorithm is also available to predict correctly spelled words. However, we generally suggest that you get your ideas down first and deal with spelling errors after-the-fact while editing, unless a particular word so stumps you that your train of thought may be lost.

Homonyms, or similar sounding but differently spelled words, are a common writing problem. In most instances, WordQ only suggests appropriate homonyms but there are times when two or more homonyms are possible. To help you make the correct choice, usage examples are provided so that you can see and hear how a particular homonym may be used.

WordQ accurately predicts (with 5 words being suggested at a time) using 2 keystrokes or less for about 85% of your average writing. Often, your desired word is available with 1 keystroke. More technical words may take 1 or 2 more keystrokes, depending on the vocabulary and the WordQ dictionary being used. WordQ Pro's dictionary, for example, is developed for college/university academic writing and it predicts advanced words in fewer keystrokes than the standard dictionary used in elementary and secondary school.

There are two other features that facilitate writing. The first is abbreviation-expansion, which helps productivity with commonly repeated phrases. Here, you create your own short-forms, e.g., "cu", and its expanded text, e.g., "see you". Type "cu" and it is replaced by "see you". The expanded text can include any alphanumeric characters of any length, including paragraphs.

The second is topics which places emphasis on topical words in the prediction. You can create a topic list by copying text from any source and WordQ then extracts topical words that either exist in your vocabulary or outside the background dictionary. A companion product, thoughtQ, can also be used to automatically create a topic list of words on any subject that can be used in WordQ. With thoughtQ, you type in a topical keyword or phrase, e.g., "acid rain" and a topic list is automatically created.

Proofreading

Many find the most beneficial use of WordQ is in proofreading. You can listen to your work being read aloud while your text is simultaneously highlighted. The voice acts as an unbiased observer reading exactly what you have written. Mistakes, such

as misspellings, missing words, or poor word order, stand out as sounding strange. Word prediction, supplemented with speech feedback, makes editing easy while you are learning a proofreading strategy. You can:

1. Highlight the current sentence to focus your attention.
2. Press <spacebar> (like a play/pause control) to hear the sentence spoken with word-by-word highlighting.
3. Step through the sentence word-by-word to locate any mistakes with the forward and back arrow keys (e.g., you may hear two words that sound wrong together, or you may have left out a word).
4. Make corrections with contextual word prediction.
5. Listen to your sentence again repeatedly until satisfied, before moving onto the next sentence.
6. Highlight an entire paragraph to get a feel for the flow of your ideas.

Why proofread with speech feedback?

- It is impossible to read your mind and know your intent to automatically make all corrections. And sometimes a word processor makes incorrect autocorrections that are not flagged.
- You are less likely to learn from automatic corrections as you would with intentional editing.
- You often read what is in your mind in the first place, not what is actually written down. Even if there are no spelling or grammar mistakes flagged, you are often unaware that what you have written may not be what you intended.
- You become more aware of what you write by matching text with what you hear and engaging with both. WordQ is under your control; it speaks exactly what is written, unfiltered by human interpretation.
- You, as a writer, can simulate what it is like to be a reader, and modify your text interactively, like a dialogue with another person, prior to presenting your edited text to someone else.

Exam mode

An Exam mode ensures WordQ doesn't offer an unfair advantage in test or exam situations. The Exam mode can be set for up to 8 hours and cannot be disabled unless the machine is restarted, which would be obvious to any invigilator overseeing an exam.

The reality is that it is possible to cheat with this type of product by hiding answers in phrases, abbreviation-expansions, word pronunciation exceptions (heard while wearing earphones), topic words, usage examples, and synonyms. Next word prediction may also be too suggestive. That is why our approach is to not just meet State or school requirements but to deal with the underlying problem of potential cheating.

In WordQ's exam mode, all features that may offer an unfair advantage are turned off while retaining key features of word predictions, speech feedback and proofreading. It is optional to allow word usage examples (typically used to help differentiate homonyms) as well as user-added words because these may be a necessary accommodation for some students.