

# Read This Blog Post In Less Than A Minute!

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I am a slow reader, and I would love to read faster. Not poetry or novels obviously—those we should savor. But lots of non-fiction, and certainly the news. There's simply too much to read in our busy world, and too little time.

That's why I decided recently—like many others apparently—to try an on-line demo of Spritz. Spritz is a soon-to-be-released app for reading text on small screens—and reading it much more rapidly than we're accustomed to. Spritz makes use of a technology first developed in 1970, called Rapid Serial Visual Presentation, or RSVP, in which each word is presented briefly in the center of the screen in sequence. The developers [claim on their website](#) that reading in this fashion makes eye movements unnecessary, and therefore boosts reading speed dramatically. Eye movements, the website claims, are a waste of time and comprehension.

I tried it, and I did feel like I was understanding the sentences that flashed by one word at a time. But the text was simple and short. I found myself wondering if I would be able to comprehend hundreds of pages of more challenging text—say a biography of Andrew Jackson or a philosophical treatise—one flashing word at a time.

A group of psychological scientists wondered this as well, and decided to find out with careful experimental study. Elizabeth Schotter, Randy Tran and Keith Rayner of the University of California, San Diego, doubted the very premise of such speed reading—that eliminating eye movements is a worthy goal. Instead, they contend, this is the “fatal flaw” in these RSVP apps—and the reason they will never be useful for reading any text that is not easy or short. Control over word processing—both sequence and duration—is the foundation of reading, they argue. Control over eye movements is not only desirable but crucial to comprehension.

The scientists explored this in a very simple study, based on this well accepted understanding of reading: When we read, our eyes systematically move in the direction that the text is written—left to right, in English. But about 10 to 15 percent of the time, we make regressions—that is, we move our eyes back in the text to previously processed words. Readers apparently make these regressions when they sense that their comprehension has faltered—that is, with more difficult sentences. So the question is: Does backtracking boost understanding? And crucially here, does the inability to backtrack harm comprehension?

That's what the UCSD scientists set out to study. They systematically examined the relationship between regressions and reading comprehension by experimentally manipulating whether or not a regression provided additional information. They did this with what's called a “trailing mask”: Readers read sentences normally, except that the words were masked as soon as they were read and the eyes moved on. This simulates RSVP, making backtracking useless for accessing additional information. In another condition, readers simply read normally, and the scientists compared how readers performed

under these two conditions. The scientists ran this comparison with both straightforward sentences and more structurally ambiguous sentences. They tracked the readers' eye movements and afterward tested their comprehension.

The results, reported in an article to appear in the journal *Psychological Science*, clearly demonstrate the importance of eye movement control to understanding. When readers are kept from going back to re-read words—with the trailing mask in this study, and more generally with the RSVP technique—they have poorer comprehension of the material. Notably, this is true for both difficult and simple sentences. These findings provide powerful evidence that that reading without the ability to re-read parts of the text, when necessary, diminishes understanding.

The findings also raise serious doubts about the speed reading claims of Spritz and other apps using the RSVP technique. And it's not just the inability to backtrack, the scientists say. For example, studies have shown that readers access information from words before actually fixating on them—so-called parafoveal pre-processing—and RSVP eliminates that ability as well. But the most important conclusion from this study, the scientists argue, is that regressions are not—as the promotional hype suggests—a “problem” to be gotten rid of. While backtracking may indeed add a little reading time, the far greater benefit is that readers will understand what they've read.

*Follow Wray Herbert's writing on psychological science in The Huffington Post and on Twitter at @wrayherbert.*