

Center for Cognitive Science

University at Buffalo, State University of New York

Wednesday, September 3, 2003

280 Park Hall

North Campus

2:00 pm – 4:00 pm

Simon Liversedge

Department of Psychology

University of Durham, U.K.

Reading disappearing text: Is there a gap effect during reading?

I will report data from three experiments investigating the influence of making the words of a sentence disappear during reading.

Experiment 1 investigated whether we could induce a "gap effect" (Saslow, 1967) during reading. Sentences were read under normal or disappearing text conditions (in which the word that was fixated disappeared after 60 ms). We predicted that reading speed would increase if a gap effect occurred under the disappearing text conditions. The experimental sentences also contained high or low frequency and long or short target words.

Reading speed remained constant under both presentation conditions and there was no evidence for a gap effect. However readers fixated longer on low frequency words than on high frequency words, even when the text had disappeared after 60 ms. These results indicate that while visual information is important for reading, the cognitive processes associated with understanding the fixated words drive the eyes through the text. In the second experiment we replaced each word with a mask rather than it disappearing and in the third experiment we made two words rather than one disappear. The masking experiment permits investigation of the role of iconic memory in Experiment 1. Increasing the window of disappearing text allows us to observe the impact of disappearing text on both preprocessing of the word to the right of the fixated word as well as processing of the fixated word. All three experiments will be discussed in relation to current models of eye movement control during reading.

Reference: Saslow M G (1967). Effects of components of displacement-step stimuli upon latency for saccadic eye movement. Journal of the Optical Society of America, 57, 1030-1033.

Refreshments will be available.

Open to the Public.

Sponsored by the Office of the Vice President for Research, University at Buffalo, The State University of New York