Context Facilitates the Decoding of Lexically Ambiguous Words
for Adults with Low Literacy

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Literacy plays a substantial role within one’s life. As of 2013, approximately 36 million adults in the United States possessed only basic literacy skills. Low literacy becomes a hindrance for adults, as these individuals face negative implications in their education, health condition, and parenting skills, yet there is limited research focusing on adult learners. For this reason, research concentrating on this population is necessary to create better programs with improved instructional methods to help these individuals overcome adversity. In this project, reading behavior and eye movement data were collected from adults with low literacy using sentences with varying levels of lexical ambiguity, context strength, and context location. Context provides readers with the opportunity to decode unfamiliar words when the meaning of the word is not easily accessed. When context reinforces word recognition, readers can use surrounding information to identify the meaning of a word, thereby bolstering their understanding and processing of key words.

To examine the influence of context on word processing, 48 lexically biased ambiguous words were used in sentences assessing reading behavior in 38 adults with low literacy. Sentences adhered to a 2 (biased ambiguous word vs. control word) X 2 (richer context vs. impoverished context) X 2 (context placed before target word vs. context placed after target word) design. Examination of eye-movement measures on target words, including first fixation gaze duration, total time, and fixation count resulted in significant findings. For first fixation, there was a significant three-way interaction between target word, context strength, and context location. When richer context preceded target words, readers spent more time on ambiguous words compared to when context was less informative suggesting that readers activated the subordinate meaning of ambiguous words when a greater amount of supportive context was available. For total time spent on target words, readers spent more time on ambiguous than control words. Furthermore, an interaction between context strength and location showed that readers made fewer fixations on target words when richer rather than impoverished context preceded target words. A decrease in the number of fixations made suggests that readers utilize available disambiguating regions of context to assist in processing and comprehension. Results revealed the benefits of context use in word processing and a reader’s sensitivity to changes in lexical ambiguity.