

## The Influence of Cognitive Load in the Acquisition of Words through Sentence or Essay Writing

**Authors :** Breno Barreto Silva, Agnieszka Otwinowska, Katarzyna Kutylowska

**Abstract :** Research comparing lexical learning following the writing of sentences and longer texts with keywords is limited and contradictory. One possibility is that the recursivity of writing may enhance processing and increase lexical learning; another possibility is that the higher cognitive load of complex-text writing (e.g., essays), at least when timed, may hinder the learning of words. In our study, we selected 2 sets of 10 academic keywords matched for part of speech, length (number of characters), frequency (SUBTLEXus), and concreteness, and we asked 90 L1-Polish advanced-level English majors to use the keywords when writing sentences, timed (60 minutes) or untimed essays. First, all participants wrote a timed Control essay (60 minutes) without keywords. Then different groups produced Timed essays (60 minutes; n=33), Untimed essays (n=24), or Sentences (n=33) using the two sets of glossed keywords (counterbalanced). The comparability of the participants in the three groups was ensured by matching them for proficiency in English (LexTALE), and for few measures derived from the control essay: VocD (assessing productive lexical diversity), normed errors (assessing productive accuracy), words per minute (assessing productive written fluency), and holistic scores (assessing overall quality of production). We measured lexical learning (depth and breadth) via an adapted Vocabulary Knowledge Scale (VKS) and a free association test. Cognitive load was measured in the three essays (Control, Timed, Untimed) using normed number of errors and holistic scores (TOEFL criteria). The number of errors and essay scores were obtained from two raters (interrater reliability Pearson's  $r=.78-91$ ). Generalized linear mixed models showed no difference in the breadth and depth of keyword knowledge after writing Sentences, Timed essays, and Untimed essays. The task-based measurements found that Control and Timed essays had similar holistic scores, but that Untimed essay had better quality than Timed essay. Also, Untimed essay was the most accurate, and Timed essay the most error prone. Concluding, using keywords in Timed, but not Untimed, essays increased cognitive load, leading to more errors and lower quality. Still, writing sentences and essays yielded similar lexical learning, and differences in the cognitive load between Timed and Untimed essays did not affect lexical acquisition.

**Keywords :** learning academic words, writing essays, cognitive load, english as an L2

**Conference Title :** ICLCLT 2024 : International Conference on Linguistics, Corpora and Language Teaching

**Conference Location :** Rio de Janeiro, Brazil

**Conference Dates :** February 01-02, 2024