

Shortcuts to meaning: Finding out meaning correspondences in the bilingual lexicon during a word translation task in English-Bulgarian

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We report results from two experiments that investigate aspects of word processing by Bulgarian-English bilinguals during a word translation task. The aim of the experiments was to investigate the process of finding out word meaning correspondences in the bilingual lexicon and the possibilities to use a priming-like (prompting) paradigm for optimizing it.

The purpose of the first experiment was to prove that, indeed, prompting a word with its translation helps during a translation task, while prompting with incongruent word hinders it. The stimulus material for it consisted of 60 L2 words (noncognates) that were either followed or not by a L1 prompt. In the prompting condition, a congruent prompt in Bulgarian was presented 250ms after the appearance of the English word and above it at a distance of 6 degrees of visual angle. The subjects were instructed to translate the English word in Bulgarian. The results in terms of percentage of correct translations confirmed the expectation that prompting helps. The reaction time (RT) results from this experiment, however, did not show significant difference in terms of translation speed with vs. without a prompt.

The aim of the second experiment was to investigate the effect of presenting true and false cognates in English with congruent and incongruent prompts in Bulgarian. The stimulus material consisted of 120 trials with true and false cognates with congruent vs. incongruent prompts. The analysis of the percentage of correct translations shows that easiest to translate were the true cognates that were prompted by a correct translation and the most problematic for translation were false cognates that were prompted with incongruent prompts. The RTs also increased in relation to the growing difficulty of the task. In this experiment eye movements were registered with a Tobii 1750 eye tracker. The results of eye movements analysis show that both false cognates and their prompts were gazed upon longer than true cognates and their prompts (gaze times and total fixation times). We can thus ascertain that the monitoring of eye movements can be quite helpful in interpreting the dynamics of finding out a translational equivalent of a word.

Finally an analysis was performed of the RTs and percentage of correct responses in translating noncognates, true and false cognates that were presented with correct prompts (across the two experiments reported above). The results in terms of percentage of correct translations show that the experimental subjects performed significantly worse with false cognates compared to the other two classes of stimuli. In terms of RTs however, significant turned out to be the difference in the delay between responding to true cognates vs. noncognates. Thus, in this task (translation of single words) the results show that prompting helps in terms of percentage of correct

translations but the most problematic to translate words (false cognates) were not the ones with the longest RTs.