

When, what and how to prompt?

Lachaud, C. M., Rydning, A., Larring, M. I.

498 words

The European research project EYE-to-IT is designed to improve the language translating abilities of expert translators engaged into human-computer interactions. In this perspective, we designed two experiments evaluating the prompting technique benefits on the performance of Norwegian (L1) - English (L2) bilingual normal adults translating written words with a keyboard. In both experiments, the Norwegian translation (target) of an isolated English stimulus word (source) was triggered by a written Norwegian word (prompt).

Three questions articulated this investigation: When, what and how to prompt?

The question “when to prompt” intended to determine in which type of L1-L2 word relation, i.e. non-cognate (“utsikt - view”) or false cognate (“skumring - dusk”, “dusk” being also a Norwegian word meaning “tuft”), prompting would prove to be beneficial.

The question “what to prompt” intended to determine which information is the most useful for a translator: Lexical or semantic? Four prompt types were defined by crossing the lexical factor (the prompt is lexically related to the target or not) with the semantic factor (the prompt is semantically related to the target or not). Therefore, the prompt could relate (1) both lexically and semantically to the target (“skumre”, a verb meaning that the night is falling, for a target like “skumring”), (2) only lexically (“skumpe”, meaning “to bump”), (3) only semantically (“kveld”, meaning “evening”), (4) or be unrelated (“rektor”, meaning “rector”). The “what to prompt” question was also considered together with the “when to prompt” question for a better apprehension of possible interactions between the L1-L2 relation type and prompting information.

The question “how to prompt” intended to determine the best prompting procedure for feeding the translator with information without disturbing him. In the first experiment, the prompt was displayed above the source, simultaneously. In the second experiment, the prompt was displayed like a prime, before the source, at the same central position on the screen.

In the first experiment, both the oculomotor behaviour of 52 participants registered by EyeLink 1000 eye tracker, and their typing behaviour were measured. In the second experiment, only the typing behaviour of 50 participants was measured. The two experiments were carried out in June and December 2008, in the ERP laboratory of the National Centre for Epilepsy (Rikshospitalet, Oslo, Norway).

Statistical analyses were run using the multilevel modelling technique. For the first experiment, ten dependent variables were analysed: Translation error count, Amount of fixations on the prompt per item, Total fixation duration on the prompt, Prompt gazing for translation and validation (binary count), Prompt gazing for translation only (binary count), First keystroke latency, First keystroke latency when the prompt was not gazed, Typing speed, Typing speed when the prompt was not gazed, and Time difference between the first fixation on the prompt and the first key pressed latency. For the second experiment, five dependent variables were analysed: Target-typing duration, Outlier count (binary), First key pressed latency, Outlier count (binary), and Translation error count (binary).

Interesting results were obtained. A synthesis of the major effects will be presented and discussed.