

CAT tools usability test with eye-tracking and key-logging: where Translation Studies meets Natural Language Processing

End user satisfaction is essential for developing better CAT tools. This is why we conducted a pilot experiment for a larger usability evaluation of Concordia, a translation memory (TM) tool (Jaworski, 2015; online demo: http://concordia.vm.wmi.amu.edu.pl/cat/jrc_plen/). Situated Translation constituted the theoretical framework for the study with emphasis on “high cognitive relevance of translation technology” (Krüger, 2016, p. 121; Risku, 2004), along with process-oriented usability (ISO 9241-11, 1998), and cognitive ergonomics (cf. Ehrensberger-Dow & O’Brien, 2015). Concordia is an innovative concordance searcher, where the search term is not a phrase, but a whole sentence. Concordia automatically looks up the longest fragments of the sentence contained in the TM and provides their translations. For the experiment the system was supplied with texts related to the European Union from the JRC-Acquis corpus (Steinberger, 2006).

We hypothesised that Concordia facilitates the translation process more than other Internet resources and conducted a pilot experiment to test it. One participant, a freelance translator, interacted with Concordia for the first time and translated three short texts with comparable readability (Flesch, 2016; Bond, 2016) in three conditions: 1) using preferred online resources, 2) using exclusively Concordia, 3) using both Internet and Concordia. Cognitive, technical, and temporal effort (Krings, 2001) were the independent variables operationalised as total gaze time, total number of user events, and total task time respectively. Gaze time was measured with EyeLink 1000 Plus eye-tracker, while a keystroke logging program, Translog-II (Carl, 2012), measured both user events and task time. Screen capture software (Morae Recorder) was used as an additional data collection tool and a post-task questionnaire investigated satisfaction with Concordia. The results provide a starting point to commence the study proper to develop not only a more effective but also more ergonomic translation aid.

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