

Translation Directionality: An Eye Tracking Study

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Abstract : Research on translation process has been conducted for more than 20 years, investigating various issues and using different research methodologies. Most recently, researchers have started to use eye tracking to study translation processes. They believed that the observable, measurable data that can be gained from eye tracking are indicators of unobservable cognitive processes happening in the translators' mind during translation tasks. The aim of this study was to investigate directionality in translation processes through using eye tracking. The following hypotheses were tested: 1) processing the target text requires more cognitive effort than processing the source text, in both directions of translation; 2) L2 translation tasks on the whole require more cognitive effort than L1 tasks; 3) cognitive resources allocated to the processing of the source text is higher in L1 translation than in L2 translation; 4) cognitive resources allocated to the processing of the target text is higher in L2 translation than in L1 translation; and 5) in both directions non-professional translators invest more cognitive effort in translation tasks than do professional translators. The performance of a group of 30 male professional translators was compared with that of a group of 30 male non-professional translators. All the participants translated two comparable texts one into their L1 (Persian) and the other into their L2 (English). The eye tracker measured gaze time, average fixation duration, total task length and pupil dilation. These variables are assumed to measure the cognitive effort allocated to the translation task. The data derived from eye tracking only confirmed the first hypothesis. This hypothesis was confirmed by all the relevant indicators: gaze time, average fixation duration and pupil dilation. The second hypothesis that L2 translation tasks requires allocation of more cognitive resources than L1 translation tasks has not been confirmed by all four indicators. The third hypothesis that source text processing requires more cognitive resources in L1 translation than in L2 translation and the fourth hypothesis that target text processing requires more cognitive effort in L2 translation than L1 translation were not confirmed. It seems that source text processing in L2 translation can be just as demanding as in L1 translation. The final hypothesis that non-professional translators allocate more cognitive resources for the same translation tasks than do the professionals was partially confirmed. One of the indicators, average fixation duration, indicated higher cognitive effort-related values for professionals.

Keywords : translation processes, eye tracking, cognitive resources, directionality

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