Idiomaticity as a tool to explore automaticity and control in bilinguals and translators

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Abstract

We explored the impact of translation expertise and untrained bilingualism on the automaticity in retrieving translations of idiomatic units across languages. We predicted a differential access to idiomatic representations due to different bilingual experiences. Untrained bilinguals and professional translators were compared on the availability of cognitive resources to process idioms for later translation, employing a dual task paradigm. Our hypothesis was that translators would count on more available cognitive resources (i.e., more automatic behavior). Contrary to our predictions, results showed that translators, compared to bilinguals, exerted higher levels of cognitive control over the task, possibly to guarantee the high-quality standards required by professional translation. Findings are discussed in light of theoretical models of bilingual idiomatic processing and professional practice.

Keywords: idioms, figurative language, bilingualism, translation.

Introduction

Idioms (e.g., *hit the road*) are "multiword conventional expressions whose semantic meaning cannot be derived from the comprehension of the individual words in the sentence" (Cacciari, Tabossi, 1988). Scholars have investigated how idioms are processed and represented in the native (L1) and second language (L2). Studies have shown that idioms are processed more quickly than non-idiomatic matched literal expressions by native speakers and by some proficient L2 speakers who, due to greater exposure, can use a direct access route to retrieve the idiom entry instead of computing the individual words included in it (e.g., Carrol, Conklin 2014). The processing differences between idiomatic and non-idiomatic expressions have been accounted for by theoretical models that explain how idiomatic expressions are processed. These models vary as to the degree of the idiomatic figurative meaning being directly (or less directly) related to the literal meaning of its individual components. Specifically, hybrid models (e.g., Sprenger et al. 2006) posit that idiomatic entries are connected to/and retrieved through both the idiom's unitary lexical concept as well as the simple lemmas comprised in it. Hybrid models of idiomatic processing have been successfully applied to the bilingual domain, but whether

they hold for professional translation is still unknown. The present study explored the predictions of the hybrid models regarding a differential access to the idiom entry depending on whether translation expertise modulates the strength of the associative links amongst the idioms' constituent lemmas (i.e., a direct route).

Interestingly, it has been demonstrated that bilingual idiomatic processing is modulated by idiomatic cross-linguistic (in)congruency; specifically, authors have shown that the degree of idiomatic similarity across languages modulates the facilitation effect observed for idiomatic expressions in bilinguals (e.g., Titone et al. 2015). Hence, (in)congruency will be critically considered in the present study.

The only studies that have established a link between idiomatic processing and (early stages of) translation practice have focused on 1) language brokering experience (i.e., informal translation practice) and 2) formal training in translation (e.g., López et al. 2017). This is the first study that explores bilingual idiomatic processing as a function of professional translation expertise.

Hypothesis and methodology

Our hypothesis was that professional translators, relative to untrained bilinguals, would be able to map L1 and L2 idiomatic expressions (at the idiom entry level) in a relatively automatic way. We based our prediction on the idea that training in translation tasks allows comprehension and retrieval processes to be fast and automatic, which plays a key role in the allocation of task-relevant cognitive resources. We employed a translation task where we manipulated the cross-language congruency between idioms (i.e., congruent vs. incongruent), and compared them to matched control expressions. To measure the degree of automaticity we asked participants to detect a tone while processing the idioms for posterior translation. In the tone detection methodology, the more cognitive resources are needed to process the idiomatic expression, the fewer resources will be left to process the tone. RTs to the tone will provide an index of the cognitive resources required to process idioms by bilinguals and translators, and the ease to accomplish the task (i.e., automaticity). All the materials used in the experiment underwent normative studies to control relevant sociolinguistic and demographic variables.

Results

RTs for congruent idioms showed the "usual" idiomatic superiority effect for both bilinguals and translators; in fact, RTs in response to the secondary task were faster while processing congruent idioms relative to control sentences. However, translators were slower than bilinguals in tone detection when the tone was placed on incongruent idioms. This was not due to an inferior translation performance since accuracy analyses showed that translators

outperformed bilinguals in correct translations, both for incongruent and congruent idioms.

Hence, the locus of the differences between the groups in the availability of cognitive resources might come from the degree to which they activated the L1 and L2 equivalent idiomatic entries relative to the activation of the individual lemmas across the two languages. All participants needed to activate the equivalent idiomatic entries to translate the idioms correctly; however, untrained bilinguals' errors while translating incongruent forms might be due to a word-by-word translation approach (i.e., the use of co-activated individual words in the L1 and L2), relative to the activation of the equivalent idiomatic entries across languages. This interpretation was supported by additional analyses indicating that untrained bilinguals experienced significantly more word-by-word translations [i.e., *He kicked the bucket* = *Pateó el cubo* (literal) instead of *Estiró la pata* (idiomatic)] compared to the translators. These results suggest that translators, despite needing more cognitive resources to process incongruent forms (slower RTs to tone detection), have more direct access to translation equivalents at the superlemma level, and adopt a chunked approach to translation. Additionally, translators might be activating the figurative meaning of sentences even when they should not (i.e., while processing control units). Therefore, we might interpret the relatively slower RTs previously observed in the processing of incongruent forms as due to the concurrent co-activation of the word-by-word meaning and the idiomatic meaning of the sentence. The translators might be increasing the time needed to detect the tone possibly because they need more cognitive resources to control for the concurrent coactivation.

Discussion and conclusions

Our study indicated that the facilitation effect for congruent idioms did not depend on professional practice. However, differences between bilinguals and translators emerged when they processed incongruent idioms: less automatized behavior and higher levels of cognitive control were put into motion by translators to guarantee high-quality standards in translation. These results confirm the impact of cross-linguistic (in)congruency on bilingual idiomatic processing. This pattern can be accommodated within the hybrid models of idiomatic processing: these models posit that the lemmas of an idiom are bound together by one common entry in the mental lexicon and activated twice. Thus, until the appropriate meaning is selected, both the individual literal meanings and the figurative one would be activated and kept available. In addition, results of the study suggested that congruency was boosted by representational and linguistic overlap across languages, resulting in faster availability of the idiom, and larger lemma/idiom competition for incongruent idioms.

Why were the simultaneous co-activation and related interference caused by incongruent idioms detected in translators and not in bilinguals? Although inhibitory control has been suggested as the way bilinguals select the required language, this mechanism does not seem appropriate to perform professional translation tasks (e.g., Ibáñez et al. 2010; Togato et al. 2017). Our study is in line with hybrid models of idiomatic processing and those studies based on the idea that bilinguals and translators may differ as to the way they negotiate their two languages.

Acknowledgements

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