

Sonja Spajić*

PhD student, Faculty of Philology, University of Belgrade

Mina Suknović**

PhD student, Faculty of Philology, University of Belgrade

THE CHOICE OF LEXEMES ACCORDING TO THEIR FREQUENCY IN TRANSLATION INTO L2***

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In their translation courses, English language and literature students are taught how to use translation techniques and procedures which ensure adequacy of their lexical choices. However, more often than not, when choosing a lexeme, students take into consideration a number of factors that lead to a less than ideal choice. In our research, we used a corpus that comprised translations of an excerpt from the novel *Ubistvo s predumišljajem* ['Premeditated Murder'] by Slobodan Selenić. All students who had translated the excerpt into English are native speakers of Serbian and in their final year of BA studies, and considered to be proficient (C1 or C2) English speakers. The goal of the study was to show to what extent and why students opted for using higher frequency lexemes rather than the ones that ensured adequacy by using error and mistake analysis. The results of the study can be used to gain a better insight into students' translation process in order to develop strategies which improve the education of future professionals.

Key words: translation studies, corpus, word frequency, lexeme choice, equivalent adequacy

1. Introduction

Recent years have seen the compilation of corpora of translations, designed specifically to investigate the language and features of translation, as well as regularities of translated texts, usually by comparing translations with their source texts, but also with non-translations. Corpus-based translation studies is placed in the context of current theoretical trends in translation studies.

* spajicsonja@gmail.com

** mina.suknovic@yahoo.com

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Corpus based research emerged in the late 1990s, and it involves using computerized corpora to study translation as a "variety of language behavior that merits attention in its own right" (Kruger 2004: 70) because it is "shaped by its own goals, pressures and context of production" (Baker 1996: 175).

The idea that translation language differs from ordinary language dates back to mid-1980s (Frawley 1984). William Frawley noticed that some features appear only in translated texts, giving them a unique character (1984: 168). He maintained that confrontation between a source language and target language during translation process results in creating a unique "third code". It represents a compromise between norms or patterns of the source language and those of the target language (Kruger 2014: 80). For example, borrowings of foreign patterns occur at all levels – from phonological to syntactic, with examples of lexical borrowing as the most frequent type in worldwide languages (Weinreich 1953: 56).

There has been a general consensus on processes involved while translating: analysis and understanding of SL, switching between two linguistic codes, and production of the message in the TL (Ruiz et al., 2007: 490). Therefore, translator performs lexical, syntactic and discourse analysis in order to "construct a mental representation of the source message" (ibid.). Translators may not be aware of these processes but the translation product may provide indirect evidence of cognitive processing inherent to translation.

The presented research was conducted as part of an international project funded by the Ministry of Education and Culture of the Republic of Srpska. The project is titled 'Phraseological competence of Serbian speakers of English through cross-linguistic contrastive analysis'. Joint efforts of the Universities of East Sarajevo, Banja Luka, Novi Sad and Belgrade resulted in a corpus which is still being compiled. Its main objective is to produce improvements both in theory and practice of the English language acquisition in the Serbian region. This type of research incorporates cross linguistic studies from the following disciplines: applied linguistics, psycholinguistics, cognitive linguistics, ESL studies. The purpose of the study is to show to what extent word frequency influences the choice of equivalents in student translators' tasks based on student translation corpus.

Given that the studies produced so far are too limited in number and scope and that the evidence is still confined to a few languages and textual genres, this piece of research is an addition to current trends in empirical descriptive research in translation studies.

2. Frequency effect and its implications

Even though word production and recognition are very complex processes that are affected by a range of variables, a number of researches suggested that the most likely predictor of language performance is in fact word frequency (Cop et al., 2015; Brysbaert et al., 2011; Murray & Forster, 2004). In both word identification (e.g. Rubenstein et. al., 1970; Scarborough et al., 1977) and word production tasks (e.g. Forster & Chambers, 1973; Monsell et al., 1989) high frequency words are processed faster than low frequency words. This phenomenon is referred to as frequency effect. Repeated exposure to a lexical item raises its baseline activation, bringing it closer to its activation threshold, making lexical selection faster during both recognition and production (see, e.g., Ibrahim et al. 2017; Murray & Forster 2004; Monsell 1991).

Measured against a range of other psycholinguistic properties, frequency accounts for a far larger amount of variance in response times and accuracies than other variables. At the lexical level the effect of lexical frequency has been identified as the most salient in the choice of lexis.

Since translation processes involve both word recognition and production, it is safe to assume that word frequency in certain instances will affect equivalent selection and that the students will opt for more easily retrievable, high frequency words. In fact, many studies have confirmed the importance of lexical frequency when translating (Ibrahim et al. 2017; Ruiz et al. 2007).

In literature, when word frequencies are discussed authors mostly refer to objective word frequencies (i.e. relative values) which reflect the average number of exposures to certain words of an experienced reader and it is assumed that these values have their application independent of corpus size (Cop et al. 2015: 1217). However, it is worth noting, as well as Cop et al. noticed, that this objective value can differ from individual's frequency exposure of a particular word. The mentioned is clearly seen in L2 classrooms where, lower level students, albeit of limited vocabulary, are familiar with and use some lower frequency words, or quite advanced students are unfamiliar with some high frequency words. Despite these exceptions, general consensus is that as language proficiency rises, so does the use of lower frequency words. Therefore, despite the fact that corpus word frequencies can over- or underestimate subjective word frequencies, they are still valid indicator of one of many process involved in equivalent selection during translation process.

3. Language competition and lexical entrenchment theories

It has been proven that frequency effect is greater in L2 than L1 and the literature provides two quite contradicting hypothesis providing an explanation for it – language competition and lexical entrenchment theories.

According to language competition hypothesis, frequency effect increase is negatively correlated with the number of languages an individual knows (Diependaele et al., 2013). It has been noted that in bilinguals word frequency effect is stronger in L2 than L1 due to “word competition” between similar word form representations – the more candidates can come into play, the larger the frequency effect (*ibid.*). Differences between monolingual and bilingual lexical systems and L1-L2 similarity will lead to increased frequency effect. Moreover, the theory proposes that the frequency effect will be larger for people with wider vocabulary, simply because there are more competitors. It is believed that since bilinguals divide their language use across two languages, each language gets lower exposure, meaning that mere knowledge of second language will reduce the lexical entrenchment of the first language because the language gets less exposure, and vice versa. Similar results have been reported in Duyck et al. 2008 and Gollan et al. 2011, also in certain eye movement recording studies (Gollan et al., 2011; Whitford & Titone, 2012), and word identification studies (Lemhöfer et al., 2008).

However, an alternative view proposes that due to generally lower proficiency in L2, lexical memory representations in L2 will be weaker, in the sense that processing them will require more energy, meaning that a lower proficiency or exposure rate will thus result in steeper frequency curves (Diependaele et al. 2013: 9). Research conducted by Diependaele et al. (2013) shows that larger frequency effects can stem from lower L2 lexical entrenchment. Lexical entrenchment, in contrast with language-competition hypothesis, further gives supremacy to language proficiency, as the key factor for lowering frequency effect, over language dominance and similarity of L1 and L2. Extensive practice when learning words will enhance entrenchment, which implies faster activation and less interference for similar representations (i.e. from similar L1). Similarly, some studies have reported lower frequency effect with speakers who have wider vocabulary (e.g. Ashby et al., 2005; Chateau & Jared, 2000). As Cop et al. suggest in their study (2015), bilinguals showed no disadvantage in L1 proficiency compared to monolinguals. The study further claims that L1 level of proficiency had positive correlation to frequency effect in L1, but had no effect on L2 frequency effect, which generally depended on L2 proficiency.

However, the authors have noticed with their students that frequency effect is not only connected to vocabulary breadth (i.e. how many words students know), but also depth (i.e. how well they know them – collocations, synonyms, antonyms, derivative forms, polysemous meanings etc. and/or as Schmitt noted (2014), the depth of vocabulary can be conceptualized as how well words are used in all four skills). Therefore, greater vocabulary depth is directly related to active vocabulary knowledge.

Although certain scholars claim that there is no distinction between the concepts of breadth and depth (e.g., Vermeer, 2001), nowadays the usefulness of the distinction has generally been accepted by researchers and practitioners alike. It has been discerned that some students who have limited vocabulary, i.e. smaller breadth, actually know them really well. This is connected to teaching methods and study approaches – learning words from textbooks, looking them up in a dictionary, forming sentences and examples, coming up with synonyms and antonyms, collocations etc. On the other hand, students may try to learn words by memorizing word lists (though to what extent and with what success is questionable), and they might have relatively wide vocabulary, but their ability to use the words may be quite limited.

For higher frequency words and for learners with smaller vocabulary sizes, there is often little difference between size and a variety of depth measures. However, for lower frequency words and for larger vocabulary sizes, there is often a gap between size and depth, as depth measures lag behind the measures of size (Schmitt 2014).

Taking everything into consideration, it can be safely assumed that vocabulary depth will be in positive correlation with lexical choices during translation; however, future research is necessary.

4. Gravitational pull and simplification hypothesis

In relation to the notion of frequency Halverson (2003) proposed the gravitational pull hypothesis which says that “given a schematic network with a prototype or schema, the linguistic form linked to that prototype or schema will be overrepresented in translated, as opposed to non-translated text”.

This hypothesis is a tentative explanation for the perceivable fact that translations may be more explicit on a number of levels than non-translated texts, and that they may simplify and normalise or standardise in certain ways. The underlying idea formulates that certain linguistic items (lexis or grammatical structures) that are highly salient would be deemed as a more likely choice by translators and consequently be overrepresented in translated target texts and comparable corpus data.

Furthermore, the gravitational pull hypothesis is being developed into a more complex and well-rounded linguistic model which would integrate the notion of salience in translation from source to target language, along with taking into consideration the impact of entrenched links between translation pairs (Halverson, 2017).

Moreover, while translating students will often try to simplify and "opt for safe, typical patterns of the target language and shy away from creative and playful uses" (Baker 2007: 14). Along with Baker, a number of researchers have found evidence that confirms simplification theory within the theory of translation universals (e.g. Laviosa 1998; Kunilovskaya et al., 2018). Lexical simplification often includes using "common" or "familiar" synonyms (i.e. higher frequency words).

5. The notion of quality in translations

Quality of translation is a serious concern while assessing translation output. That being said, all translations should support the notion of exhibiting some degree of accuracy and fluency. The former one is of more interest to this study given that it is a bilingual concept indicating the correspondence between the source and target text.

Discussions regarding translation quality for a long time focused on equivalence, which used to echo adequacy as understood today by researchers – good translation is viewed as an optimal compromise between meaning preservation and target language correctness (Vela et al. 2014: 48).

However, nowadays the traditional, one-dimensional, view of the relation between source and target text has been abandoned and scholars propose that, depending on the communicative context within and for which a translation is produced, this relation can vary greatly (ibid: 49). It is thought that the level of linguistic or semantic "faithfulness" of a good translation towards the source text depends not only on functional criteria, but also aesthetical, communicative, situational and cognitive aspects. This view is echoed in the concepts of "primary vs. secondary", "documentary vs. instrumental" and "covert vs. overt" translation (Hönig, 2003). The consequence of this shift in paradigms is that, since different translation strategies may be appropriately adopted in different situations, evaluation criteria become essentially dependent on the function that the translation is going to play in the target language and culture (Vela et al. 2014: 49). Translation errors, then, are not just simple violations of the target language system or outright failures to translate

words or segments, but violations of the translation task that can manifest themselves on all levels of text production (Nord, 2003).

Furthermore, as stated by Koby et al. (2014): "A high-quality translation is one in which the message embodied in the source text is transferred completely into the target text, including denotation, connotation, nuance, and style, and the target text is written in the target language using correct grammar and word order, to produce a culturally appropriate text that, in most cases, reads as if originally written by a native speaker of the target language for readers in the target culture." This idea contributed to the authors' overall impression and judgment of the compiled translation corpora keeping in view the nature of the source text and its distinct cultural, semantic and pragmatic features. Moreover, "good" translations are characterized by creative solutions that are not easily reproducible (often require the use of low frequency words), but that help to achieve target language readability and comprehensibility.

6. Methodology

6.1. Participants

Thirty-two students from the Faculty of Philology, University of Belgrade, participated in the study. All of them were in their final year of BA studies at the Department of English language, literature and culture, taking the same translation courses throughout the year. Mean age was 23, with inclusion of both genders. Students were encouraged to participate in the research project on a voluntary basis (without receiving course credit) by submitting their translation homework elected for the upcoming week. Student volunteers gave informed written consent for participation. Age and gender were not considered as independent variables for the purposes of this research.

6.2. Data

A corpus of student translations and essays was compiled in 2019. At the moment of writing this article, the corpus consists of 260 translations, including translations of both literary and non-literary texts, and 70 essays. Regarding this piece of research, only one text was selected – thirty-two literary translations from Serbian to English. Translations were produced by student translators in a classroom setting.

With the aim of retaining objectivity in criteria for data collection, the choice of original words from the text was made by using an online random-word selection software – Text Fixer. Thirty words were obtained, function words were disregarded.

This random sample of words was then used for equivalent collection in the corresponding students' translations. Each equivalent was noted down, along with an exact number of translation variations. Given that word frequency serves as a dependent variable in this research, the authors opted for BNC Web corpus for gathering information about the words' general frequency (number of instances per million words) while simultaneously observing the number of hits in given texts.

The authors deemed the choice of using BNCWeb as a representative corpus a valid one given the published date of the novel used as a source text, as well as the contemporaneity of the corpus. Corpus data features both written and spoken texts over the period between 1980 and 1993 which includes the year of 1993 when *Premeditated Murder* was published. Moreover, it was presumed that obtained corpus information regarding word frequency would serve as a good measure for the purposes of this research. Included in the criteria were both examples from written and spoken texts within the corpus. Furthermore, headwords were introduced in their original form relevant to parts of speech demonstrated in translations.

6.3. Source text

A number of variables have been taken into account regarding the choice of data collection and source text. The use of both translation direction was in this case unfeasible considering that there is no exemplary electronic corpus of the Serbian language. Therefore, the authors opted for literary translation, from Serbian to English. The excerpt was taken from a novel by Slobodan Selenić titled *Premeditated Murder (Ubistvo sa predumišljajem)*. From the viewpoint of this research, source text features are well exemplified in the novelist's choice of low frequency words, elegant voice of the author and vocabulary denotative of the post-war period depicted in the novel.

7. Results and Discussion

The aim of this paper was to examine translation process of Serbian students of the English language by placing special emphasis on word frequency. Since the translators are not native speakers of the language, the authors hypothesized to what extent word frequency affects the choice of lexemes and which factors would potentially influence the selection of a higher frequency word as opposed to the more adequate choice, both contextually and grammatically.

The discussion will primarily be focused on the interpretation of results and their classification according to authors' remarks on the aforementioned. This will serve as

a solid starting point for future research in corpus-based translation studies, both broader in the scope of data and the quantity of languages under analysis.

The present results indicate that there are several aspects to be taken into account while analyzing lexical choices in students' translations by taking word frequency into consideration. Overall research results reveal that 30% of translation equivalents belonged in the group of higher frequency words based on the selected comparative corpus. In addition to this finding and in relation to the word class, these choices were most commonly made in terms of nouns. Thus, greater frequency effect was discovered in noun equivalent selection. Nouns were also represented in a greater number (11) as opposed to verbs (8), adjectives (8) and adverbs (3) after utilizing random word selection software.

In regard to words with most equivalent variations in translated texts, it could be noted that they were low frequency words (LFW). Such examples would include words like: *oguglali*, *izigramo*, *nenadmašno*, *obesno* and *podvala*. These results support the previous research findings and hypotheses made on L1 and L2 language proficiency; more specifically they support the lexical entrenchment hypothesis which directly correlates language proficiency with reduced frequency effect. Be that as it may, it could be noticed that more often than not, students failed to make an appropriate equivalent choice due to their lack of contextual perception and/or native language proficiency. The adverb *obesno* exhibited most variations, amounting to 18 equivalent choices, followed by the verb *oguglati* with 15 translation variations. However, concerning the students' choice of equivalents, the results show that they opted for lower frequency equivalents demonstrating a more in-depth translation process.

Authors also focused on establishing the adequacy of translation equivalents by using error and mistake analysis. In about 70% of the cases of inadequate translations, students opted for higher frequency translations. It was noted that, when faced with L1 low frequency words, they chose high frequency L2 equivalents potentially due to lower L1 proficiency. Additionally, this could also lead to lower linguistic competence in translators' L2. A clear example of L1 competence and word comprehension problem is observable in the word *obesno* where students came up with equivalents such as *successfully*, *thoroughly* and *wildly*, which do not correspond to the word meaning both contextually and semantically. Evidently, such finding supports the authors' remark and previous research on linguistic competence in students' mother tongue affecting the corresponding L2 translation output.

The aforementioned taken into account, the authors' focus was shifted to the role of context and polysemy in student translation outcome. More often than not, the effect of context and polysemy was disregarded by the students who favoured high frequency words for translation equivalents. This phenomenon might also be explained with previous research on the key role of frequency in the emergence of polysemy (Fenk-Oczlon & Fenk, 2010). Frequent and common source words tend to be found in metaphorical and metonymical expressions which is particularly evident in students' translations. In many cases, students opted to use polysemous words which could have affected the results in terms of precise word frequency relative to the word context. More specifically, word frequency results were influenced by a word's polysemous qualities. One such example is evident in the translation of a word *pribrao* which generated forms like *come to* or *collected* which are both found in a variety of literal and metaphorical meanings thus affecting the word frequency count of the equivalent. Yet another instance of this choice is found in the word *izigrano* which was translated as 'to play' in many cases, ultimately yielding results that go in favour with high frequency word selection.

Furthermore, there was a propensity for shorter word production which directly correlates to high token frequency (Jespersen, 1933). Translators recurrently chose shorter word forms for their equivalents, such as 'bad' or 'ugly' for *ružna*, 'deep' for *dubokim*, present simple forms of the verb 'to be' for *predstavlja*, etc. It is then to be concluded that words used in a higher number of contexts are predisposed for more frequent use – a fact which might have partially affected the overall results.

Alongside this, there could be found some inadequate translation equivalents as regards both the word polysemy in the native language as well as source text context, like in the word *kucati*, where a number of students chose the verb 'to knock' which does not correspond to the writer's intended meaning.

Translators' perception and appropriate analysis of text features also served as a useful means to determine equivalent adequacy and frequency effect. Specifically, students often chose higher frequency words instead of a more adequate equivalent as a result of not bearing in mind text features: *dubokim* – 81% used 'deep' (94.18 frequency value), whereas 12% of students opted for 'profound' (14.58). Given that this research was conducted under a project aimed at improving and establishing the quality of English language teaching methodology, it was important to take into consideration students' perception of broader context and textual features in their selection of appropriate translation equivalents.

Several other observations have been made regarding students' translation process. Some students avoided selecting translation equivalents altogether by simply omitting parts of the sentence or by trying to paraphrase it to accommodate for its meaning. This in turn led to authors' having fewer number of translation equivalents to check for word frequency in some cases. In addition to this, student translators changed the word class in some instances. Such change was not regarded as an inadequate example of translation equivalent and was therefore checked for word frequency. Translation simplification was also present in some text translations.

Regarding the word frequency effect the authors may conclude: frequency does present a considerable factor in the translation process. Translation output and use of comparable corpora is a useful way of examining aspects of translators' use of language (in this case fourth year students of English) and providing evidence of processes inherent in translation. However, it should also be concluded that a broader array of factors such as word polysemy and context, as well as students' L1 and L2 proficiency are in interplay during the translation process, their positive or negative impact notwithstanding.

As it was noted, words are processed more quickly if they commonly occur as constituents in other words or if they are combined with a larger number and variety of other words (Jones et al, 2017). This array of factors is closely integrated with word frequency. For this reason, it may be surmised that when all of these variables are taken into account, the effect of word frequency is somewhat attenuated. That is not to say that its effect is not inherently included in the translation process, especially when examining translation techniques employed by non-native speakers of the target language. As Oczlon-Fenk and Fenk (2017) draw on Baayen's conclusions: "frequency effects may simply be an epiphenomenon of learning to link form to lexical meaning" which certainly stands for foreign language learners and translators.

Our expectations, based on previous research findings and our experiences in a foreign language classrooms, clearly indicate the presence of lexical frequency effect in translation process, both in cases of correct and incorrect translation equivalents. Be that as it may, such effect was not distributed enough to draw any firm conclusions on its impact on translation output. Furthermore, what could be derived from translation examples was the variety of word equivalents which quite frequently showed a fair competence in the target language and overall understanding of text features and context. This is posited as being a reflection of a clear positive effect of formal instruction in translation studies. Therefore, this small-scale study could

contribute to the evaluation of visible theoretical and practical instructions in translation studies and to potentially produce new solutions for teaching translation techniques.

8. Limitations

This research project is only a starting point for further investigations regarding frequency effects in translation. It was carried out on a small corpus of 30 words and a single source text. Future examinations should broaden the scope of independent variables, such as the text genre, both the number of participants and corpus data, and take a closer look at potential effects of L1 proficiency and context.

9. Conclusion

One of the reasons why the use of computerized corpora in translation studies and education has attracted a lot of attention in recent years is the fact that translation corpus analysis gives an insight into translation processes. This study was conducted following that idea with practical, methodological and theoretical approach to examination.

Based on the compiled corpus, as well as obtained and analyzed results, several conclusions can be made:

- Despite the fact that the majority of source text words which were analyzed were of lower frequency, one third of equivalent choices were in fact higher frequency words;
- The highest word frequency effect in terms of word class was found in noun translation equivalents;
- The majority of variations in translated equivalent were exemplified by lower frequency words in the source text. One such example yielded 18 different translation pairs which is particularly noteworthy given the fact that there were 32 subjects tested;
- Several text source words deemed as both low frequency words and words befitting to the period of the published novel produced inadequate translation equivalents. This finding could support a theory that linguistic competence in L1 affects the appropriate lexeme choice in L2 which was demonstrated by semantically and contextually inappropriate translation pairs which, at the same time, belonged to the group of higher frequency words;

- Further analysis into obtained translation pairs resulted in identifying of another effect impacting the output of higher frequency words illustrated by the polysemy effect. Higher word frequency results were affected by the words' polysemous quality since these words are strongly represented both in the corpus and everyday language.
- Shorter word production is directly correlated to high token frequency which was accordingly exemplified in translators' choice of lexemes.
- Text features were in some cases overlooked which could be an example of students' failure to apply translation techniques in regards to source text context and semantic properties.

Whereas the authors noticed strong frequency effects in translation output (accounting for 30% of the overall corpus), very small effects were observed by examining cross-language competition. In addition to this account, translation equivalents compiled for this study showed evidence of larger vocabulary sizes in a fair number of participants which yielded smaller frequency effects. This evidence may contribute to lexical entrenchment hypothesis which presupposes that larger vocabularies are associated with better entrenchment (Diependaele et al, 2013). Therefore, the authors surmise that vocabulary size and lexical proficiency in the target language contribute to word frequency effects or lack thereof in the choice of translation equivalents.

That being stated, the authors then emphasize the benefits of clear instruction given to students in translation studies and evident consideration and application of techniques being taught to them.

The authors may only hope that this research will be a contributing factor to other investigations in corpus-based translation studies and that it will grow in its scope further down the line.

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