

PAPER

A STUDY OF COLLOCATIONS IN A PARALLEL CORPUS OF TRANSLATIONS AND EQUIVALENT TEXTS

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Abstract

This study investigates the translation patterns and equivalence strategies of collocations in a parallel corpus consisting of English-Uzbek translations. Collocations, as recurrent word combinations, pose significant challenges in translation due to their language-specific nature and varying degrees of semantic transparency. Using a corpus-based approach, this research analyzes 500 collocation instances extracted from literary and technical texts to identify translation strategies, frequency patterns, and equivalence types. The findings reveal that translators employ diverse strategies including literal translation, substitution, paraphrase, and cultural adaptation depending on collocation type and context. Statistical analysis demonstrates that verb-noun collocations exhibit the highest variation in translation equivalents, while adjective-noun combinations show more consistent patterns. The study contributes to translation studies by providing empirical evidence on collocation translation behavior and offers practical implications for translator training and machine translation development.

Key words: collocations, parallel corpus, translation equivalence, corpus linguistics, English-Uzbek translation, translation strategies

Collocations represent one of the most challenging aspects of language learning and translation. Defined by Firth (1957) as habitual co-occurrences of words, collocations constitute a fundamental feature of natural language use. The translation of collocations is particularly problematic because these word combinations are often language-specific and may not have direct

equivalents in the target language. As Sinclair (1991) noted, the principle of idiom suggests that language users have available to them a large number of semi-preconstructed phrases that constitute single choices. The advent of corpus linguistics has revolutionized the study of collocations and their translations.

Parallel corpora, which consist of original texts

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aligned with their translations, provide researchers with valuable data for investigating how translators handle collocations across languages. Such corpora enable systematic analysis of translation patterns, frequency distributions, and equivalence relationships that would be difficult to observe through traditional methods. This study examines collocations in an English-Uzbek parallel corpus, focusing on identifying translation strategies and equivalence patterns. The research aims to contribute to both theoretical understanding of collocation translation and practical applications in translator training and computational linguistics.

The concept of collocation has been defined variously in linguistic literature. Firth's (1957) seminal work introduced the notion that "you shall know a word by the company it keeps," emphasizing the co-occurrence patterns of words. Hoey (2005) expanded this definition, describing collocations as psychological associations between words that result from their repeated encounter in similar contexts. Researchers have proposed different taxonomies for classifying collocations. Benson et al. (1986) distinguished between grammatical collocations (consisting of a dominant word and a preposition or grammatical structure) and lexical collocations (combinations of nouns, adjectives, verbs, and adverbs). Common types include verb + noun (make a decision), adjective + noun (strong coffee), and adverb + adjective (highly recommended). The translation of collocations has received considerable attention in translation studies.

Baker (1992) identified collocations as a major source of translation difficulty, noting that what constitutes a natural collocation in one language may sound awkward or unnatural in another. This challenge is compounded by the fact that collocations exist on a continuum from fully transparent (where meaning can be derived from constituent words) to completely opaque (where meaning is non-compositional). Several studies have investigated translation strategies for collocations. Newmark (1988) proposed strategies including literal translation, through-translation, and cultural equivalent substitution. More recent corpus-based studies (Corpas Pastor & Mitkov, 2009; Nesselhauf, 2005) have revealed that

translators employ flexible strategies depending on context, text type, and the semantic relationship between collocation components. Parallel corpora have become indispensable tools for translation research. Johansson (2007) emphasized their value in revealing translation patterns, identifying translation universals, and developing translation technologies.

Studies utilizing parallel corpora have documented phenomena such as simplification, explicitation, and normalization in translation (Baker, 1996). These resources enable quantitative analysis of large-scale translation data, complementing qualitative approaches to translation studies.

The parallel corpus for this study comprises approximately 200,000 words of English source texts aligned with their Uzbek translations. The corpus includes two main text types: literary texts (novels and short stories) accounting for 60% of the corpus, and technical texts (scientific articles and user manuals) constituting 40%. This distribution allows for examination of collocation translation across different registers and genres. Texts were selected based on several criteria: publication date (2010–2023), translation quality (verified by professional translators), and representativeness of contemporary language use. All texts underwent preprocessing including sentence alignment using Hunalign software and part-of-speech tagging using TreeTagger.

Collocations were identified using a combination of statistical and manual methods. First, candidate collocations were extracted using the log-likelihood ratio and mutual information scores, with threshold values set at $LL \geq 10.83$ ($p < 0.001$) and $MI \geq 3$. This statistical extraction yielded approximately 2,500 potential collocations. The candidate list underwent manual filtering by two independent researchers to eliminate false positives and ensure that selected items met established criteria for collocations. This process reduced the dataset to 500 confirmed collocations representing three main types:

Verb + noun collocations (e.g., make a decision, take action) – 200 instances

Adjective + noun collocations (e.g., heavy rain, strong evidence) – 180 instances

Adverb + adjective collocations (e.g., highly

unlikely, completely different) – 120 instances

Each collocation instance was analyzed according to multiple dimensions. Translation strategies were classified following an adapted version of Vinay and Darbelnet's (1995) taxonomy:

Literal translation: Direct word-for-word translation maintaining source language structure

Substitution: Replacement with target language collocation of equivalent meaning

Paraphrase: Rendering meaning through non-collocational expression

Cultural adaptation: Modification to suit target culture expectations Additionally, equivalence types were categorized as full equivalence (one-to-one correspondence), partial equivalence (overlapping but not identical meaning), or zero equivalence (no direct target language collocation). Inter-rater reliability was calculated using Cohen's kappa, yielding $k = 0.87$, indicating strong agreement. Analysis of the 500 collocation instances revealed varying preferences for translation strategies across collocation types. Table 1 presents the distribution of strategies employed:

Table 1: Translation Strategy Distribution by Collocation Type

Collocation Type	Literal	Substitution	Paraphrase	Cultural	Total
Verb + Noun	42	78	62	18	200
Adjective + Noun	68	85	22	5	180
Adverb + Adjective	52	48	18	2	120

The data reveals that substitution was the most frequently employed strategy overall (42.2%), followed by literal translation (32.4%), paraphrase (20.4%), and cultural adaptation (5%). However, strategy preference varied significantly by collocation type. Verb-noun collocations showed the highest rate of substitution (39%) and paraphrase (31%), reflecting their semantic complexity and language-specific nature. Adjective-noun combinations demonstrated greater acceptability of literal translation (37.8%), suggesting more cross-linguistic similarity in modification patterns.

Analysis of equivalence relationships revealed

three distinct patterns. Full equivalence, where source and target collocations display one-to-one correspondence in both form and function, was identified in 156 instances (31.2%). These typically involved universal concepts or transparent collocations, such as "make a mistake" translated as corresponding error-making expressions in Uzbek. Partial equivalence, characterized by overlapping but non-identical semantic ranges, constituted the majority with 268 instances (53.6%). For example, the English collocation "heavy traffic" was variously translated using different intensifiers in Uzbek depending on context, with no single equivalent capturing the full range of the English expression. Zero equivalence cases, where no conventional collocation exists in Uzbek, accounted for 76 instances (15.2%).

These typically required paraphrase or explanatory translation. Cultural collocations such as "white lie" presented particular challenges, often necessitating cultural adaptation strategies that modified both lexical items and cultural reference points. Comparison between literary and technical texts revealed significant differences in translation approaches. Literary translations exhibited greater flexibility, with translators more willing to employ cultural adaptation (8.3% vs. 2.5% in technical texts) and paraphrase (24.7% vs. 14.5%). Technical translations showed stronger preference for literal translation (38.5% vs. 28.3%) and substitution (44.3% vs. 40.8%), reflecting the importance of terminological precision and standardized expressions in technical discourse.

The findings of this study illuminate several important aspects of collocation translation. The predominance of substitution strategies suggests that translators prioritize naturalness in the target language over structural fidelity to the source text. This aligns with Toury's (1995) concept of translation norms, where acceptability in the target culture often takes precedence over adequacy to the source text. The variation in translation strategies across collocation types supports the view that collocations exist on a continuum of fixedness and semantic transparency. Verb-noun combinations, being more semantically complex and action-oriented, required more creative translation solutions. In contrast, adjective-noun collocations,

often descriptive and compositional, permitted more straightforward transfer. The prevalence of partial equivalence (53.6%) underscores a fundamental asymmetry between languages in their collocation systems. This finding has important implications for both human and machine translation. For human translators, it emphasizes the need for extensive exposure to authentic target language texts to develop intuitions about acceptable collocation patterns. For machine translation systems, it suggests that simple dictionary-based substitution will frequently produce unnatural output, necessitating more sophisticated approaches that consider contextual and collocational constraints. The genre-based variations observed in the study reflect different translation priorities across text types.

The greater conservatism in technical translation likely stems from the need for terminological consistency and the standardized nature of technical discourse. Literary translation, conversely, allows for—and indeed may require—creative adaptation to preserve stylistic effects and cultural resonance. The cases of zero equivalence merit particular attention. These instances reveal cultural and conceptual gaps between languages that extend beyond mere lexical differences. When translators encounter collocations encoding culture-specific concepts, they must make strategic decisions about how much cultural information to preserve, explain, or adapt. The solutions observed in this corpus demonstrate that successful translation often involves a delicate balance between foreignization and domestication.

This corpus-based study has provided empirical insights into the translation of collocations in English-Uzbek parallel texts. The analysis of 500 collocation instances has revealed complex patterns of translation behavior characterized by strategy variation, partial equivalence, and genre sensitivity. The findings confirm that collocation translation cannot be reduced to simple rules but requires translators to navigate multiple constraints including linguistic structure, semantic compatibility, cultural appropriateness, and genre conventions. The study contributes to translation theory by providing quantitative evidence for the variability of translation strategies and the

prevalence of partial equivalence in collocation translation. These findings support usage-based approaches to translation that emphasize the role of frequency, context, and conventionalization in shaping translation choices. From a practical perspective, the results have implications for translator training and translation technology development. Translator education programs should incorporate corpus-based exercises that expose learners to authentic collocation patterns in both source and target languages. Machine translation systems would benefit from collocation-aware algorithms that consider both syntactic patterns and semantic relationships.

Future research could extend this work in several directions. Larger-scale studies incorporating multiple language pairs would allow for cross-linguistic generalizations about collocation translation patterns. Investigation of translators' decision-making processes through think-aloud protocols or eye-tracking could provide cognitive insights into how translators process and render collocations. Additionally, longitudinal studies could examine whether collocation translation patterns evolve over time in response to language contact and globalization. In conclusion, this study demonstrates the value of parallel corpus analysis for understanding translation phenomena. By combining quantitative corpus methods with qualitative analysis of translation strategies, researchers can develop more nuanced accounts of how translators navigate the challenges posed by collocations and other phraseological units.

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