



## The Impact of Google Translate Syntactic Strategies on Translation Quality: Translating Journal Articles from Indonesian to English

M. Yamany MZ

University of Mataram, Indonesia

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### **Abstract**

The prevalent use of Google Translate as a tool for academic translations, despite concerns regarding its quality, frames the core issue of this research. This research aims to classify syntactic strategies used by Google Translate in translating from Indonesia to English. It also aims to analyze the quality of the translation produced and how the syntactic strategies affected the translation quality. The data were collected from a journal article entitled “Pengaruh Bahasa Indonesia dan Bahasa Inggris sebagai Bahasa Pengantar dalam Pendidikan Formal” which were presented using descriptive qualitative method. The findings of this research reveal there are several types of different syntactic strategies used by Google Translate. The result of this research shows that, out of 273 data collected, there are 123 (45.05%) data of literal translation, 2 (0.73%) data of loan and calque, 53 (19.41%) of transposition, 17 (6.23%) data of unit shift, 45 (16.48%) data of phrase structure change, 1 (0.37%) data of clause structure change, 18 (6.59%) data of sentence structure change, 1 (0.37%) data of cohesion change, 13 (4.76%) data of level shift, and no data found for scheme change. In addition, there are several different classifications found for translation quality. Out of 194 data analyzed, the results show that 163 (84.02%) data are accurate, 30 (15.46%) data are less accurate, and 1 (0.52%) data is not accurate. For acceptability, there are 179 (92.27%) acceptable, 14 (7.22%) data are less accurate, and 2 (1.03%) data are not acceptable. Finally, there are 180 (92.78%) data high readability, 15 (7.73%) data are medium readability, and no data found for low readability.

**Keywords:** *Google Translate; Syntactic Strategies; Translation Quality*

### **Introduction**

Language serves as a pivotal medium for communication, enveloping various forms such as spoken, written, and non-verbal signals. The multifaceted nature of language envelops linguistics, literature, and translation studies, with a particular emphasis on translation. Translation embodies the intricate process of transmitting the meanings of words or text from one language into another. Notably, it is essential to acknowledge that the transmission of language encompasses more than merely translating words, as it must also navigate through the complexities of cultural and emotional subtleties embedded within linguistic contexts.

It is significant to consider the target audience's linguistic and cultural framework during the translation process. In addition, emotional or connotative values might exhibit variations contingent upon the target culture (Nida, 1964, p. 36). The vitalness of this consideration becomes evident when juxtaposing gender linguistic practices between English and Indonesian. In English, gendered pronouns ("he" and "she") offer explicit identity, while in Indonesian, the pronoun "dia" is devoid of gender specificity, highlighting the translator's responsibility to negotiate meaning while navigating through different cultural and linguistic landscapes.

Catford provides a succinct definition of translation, stating it as "the replacement of textual material in one language (source language,) by equivalent textual material in another language (target language)" (Catford, 1965, p. 20). In our technologically-driven age, translation is no longer exclusively human-driven but is supported by digital tools. Google Translate stands out among these, facilitating translation across myriad languages. Its functionality extends from translating single words to entire paragraphs, and it is utilized extensively across academia and beyond. Despite its widespread use, its reliability has been a point of contention among users and scholars. Nonetheless, the tool has found a proponent in academics like Argondizzo (2019), who asserts that as long as the translations align with the context, they maintain their accuracy.

The advancement of Google Translate, significantly through the incorporation of Artificial Intelligence, cannot be dismissed. A profound transformation came with the deployment of Neural Machine Translation (NMT), which was elucidated by Quoc V. Le & Mike Schuster and the Google Brain Team in 2016. NMT allowed Google Translate to perceive and translate entire sentences in context, markedly enhancing its naturalness and accuracy. Nonetheless, skepticism persists regarding its dependability. The ever-increasing academic interest, reflected in numerous research publications over recent years, underscores a collective quest to decipher the strategies and quality of Google Translate, while concurrently exploring its broader implications, especially within pedagogical contexts pertaining to English translation methodologies and reliability in educational settings.

## ***Methodology***

This research was classified into descriptive and qualitative research. According to Babbie (2008), "qualitative data analysis is the nonnumerical assessment of observations made through participant observation, content analysis, in-depth interviews, and other qualitative research techniques" (p. 439). The collected data were all utterances such as words, phrases, clauses, and sentences. The data were collected from an academic journal with the title "Pengaruh Bahasa Indonesia dan Bahasa Inggris sebagai Bahasa Pengantar dalam Pendidikan Formal". This journal was published on INA-Rxiv by Desi Riyantika in 2019. In analyzing syntactic strategies, Chesterman's theory on translation was used which divided the data into 10 syntactic categories. On the other hand, quality of translation was analyzed by using Nababan's assessments which divided the data into 3 classifications. Finally, the data found were validated by a sworn and authorized translator, Fatchurozak. He is a sworn translator by the virtue of Jakarta Capital Territory Governor's Decree No. 3065/2003, practicing in Jakarta.

## ***Result and Discussion***

The results of this research are categorized into two primary segments: syntactic strategies, grounded in Chesterman's theory of translation, and translation quality as delineated by Nababan's assessment criteria. Furthermore, the impact of these strategies on translation quality is explored in greater depth in the discussion section.

## *The Result of Syntactic Strategies*

Table 1 The result of Chesterman's syntactic translation strategies

Syntactic Strategy	Data Found	Percentage
Literal Translation	123	45.1%
Loan and Calque	2	0.7%
Transposition	53	19.4%
Unit Shift	17	6.2%
Phrase Structure Change	45	16.5%
Clause Structure Change	1	0.4%
Sentence Structure Change	18	6.6%
Cohesion Change	1	0.4%
Level Shift	13	4.8%
Scheme Change	0	0%
<b>Total</b>	<b>273</b>	<b>100%</b>

The syntactic strategies utilized by Google Translate when converting text from the Indonesian language to English demonstrate a significant reliance on Literal Translation, which is applied in approximately 45.1% of cases. This high percentage could suggest a substantial degree of syntactic and semantic compatibility between the source and target languages within the analysed corpus, thereby enabling a straightforward conversion to be effectively implemented.

Transposition emerges as the second most prevalent strategy, utilized in approximately 19.4% of cases, indicating that modifications to word order are a vital component in maintaining syntactic and semantic coherence between the Indonesian source text and English translations. Moreover, Phrase Structure Change is also notably employed, comprising approximately 16.5% of the utilized strategies, which may signify frequent alterations in phrase structures to adhere to English syntax and semantics.

Conversely, strategies such as Loan and Calque, Cohesion Change, Clause Structure Change, and Scheme Change are scarcely leveraged, collectively constituting about 1.1% of translations, with Scheme Change showing no utilization whatsoever. This low usage could highlight that these strategies might not be particularly effective or necessary when translating between Indonesian and English within the given data set.

The minimal application of Loan and Calque strategies is noteworthy, potentially suggesting that English has available equivalents for most of the terms or expressions in the Indonesian language, thus reducing the need to utilize borrowing or transliteration strategies.

This analysis provides valuable preliminary insights into the mechanisms of machine translation, particularly those employed by Google Translate, between the Indonesian and English languages. Nevertheless, it is imperative to recognize the inherent limitations of this analysis and to treat the findings as initial observations that may require further validation through more extensive research and analysis, potentially involving various text types and additional language pairs. This further research could augment the initial observations, offering a more extensive understanding of machine translation syntactic strategies.

## *The Result of Translation Quality*

Table 2 The result of Nababan's translation quality assessments

<b>Quality Classification</b>	<b>Quality Level</b>	<b>Data Found</b>	<b>Percentage</b>
Accuracy	Accurate	163	84.0%
	Less Accurate	30	15.5%
	Not Accurate	1	0.5%
<b>Total</b>		<b>195</b>	<b>100%</b>
Acceptability	Acceptable	179	91.8%
	Less Acceptable	14	7.2%
	Not Acceptable	2	1.0%
<b>Total</b>		<b>195</b>	<b>100%</b>
Readability	High Readability	180	92.3%
	Medium Readability	15	7.7%
	Low Readability	0	0%
<b>Total</b>		<b>195</b>	<b>100%</b>

Most notably, the translations were predominantly accurate, with a substantial 84.0% being categorized as such. This suggests that Google Translate can generally maintain the fidelity of information when translating from Indonesian to English. However, attention should be directed towards the 15.5% of translations that were less accurate and the marginal 0.5% that were not accurate. These instances may indicate potential areas for improvement in ensuring the reliability and correctness of the translated content.

The translations also demonstrated high levels of acceptability, with a remarkable 91.8% being labeled as acceptable. This implies that the majority of translations are aligned with the linguistic and grammatical standards of the English language and are deemed suitable by reviewers. Nevertheless, the 7.2% of less acceptable and 1.0% of not acceptable translations point towards existing limitations or inconsistencies in the translation model which could be examined and refined further.

In terms of readability, Google Translate exhibited strong performance, with 92.3% of translations receiving a high readability score. This indicates that the resulting English translations are largely fluid and comprehensible from the perspective of English speakers. However, the 7.7% with medium readability suggests that there exists a subset of translations where the readability might be slightly impeded, hinting at another potential focal point for enhancement in the translation model.

## *Discussion*

Looking at the results of the data findings above, it is clear that the way Google Translate works affects the quality of translations from Indonesian to English.

The strategy part says that 'Literal Translation' is the most common strategy used, making up almost 46%. Because Indonesian and English have many similarities, using literal translation often makes sense. This is supported by the quality part, which shows over 81% of these translations are correct. Basically, when the translation is direct, it keeps the original meaning, which means higher quality.

Even though literal translation is common, Google Translate also uses other methods like 'Transposition', changing phrases, or shifting units of meaning. The quality part shows almost 90% of these translations are still good. This shows that even if a direct translation is not possible, Google Translate can change its method to still make the translation fit well in English.

Google Translate does not often use complicated translation methods. Because of this, the translated content is easy to read, with over 90% being highly readable. The simpler the translation method, the easier it is for people to understand the result.

Both parts show that Google Translate is both smart and adaptable. The strategy part tells us it can change its methods based on what is being translated, and the quality part shows the results are usually very good. This means that the system really understands language structures and different cultural meanings to give the best translation.

Finally, the way Google Translate translates from Indonesian to English, mainly using literal translations and changing its approach when needed, has a big impact on how good the translations are. The high scores in accuracy, acceptability, and readability prove that Google Translate strategies of translation work well.

## **Conclusion**

Navigating through the syntactic strategies implemented by Google Translate in translating text from Indonesian to English, 'Literal Translation' emerges prominently, being employed in 45.1% (123 instances) of the cases. This could suggest a profound syntactic and semantic alignment between the source and target languages, thereby endorsing an effectual literal conversion. Conversely, 'Transposition' and 'Phrase Structure Change' are applied in 19.4% (53 instances) and 16.5% (45 instances) of cases respectively, highlighting their role in adapting the word order and phrase structures to maintain coherence with English syntax and semantics. Interestingly, the lower adoption of strategies such as 'Loan and Calque' (0.7%, 2 instances), and an absolute non-utilization of 'Scheme Change' (0%, 0 instances), provides an insight into the propensity of Google Translate to circumvent linguistic borrowing or structural alterations, prioritizing semantic consistency and intelligibility.

In the realm of translation quality, Google Translate demonstrates appreciable competency, with 84.0% (163 instances) of the translations being classified as accurate, 91.8% (179 instances) as acceptable, and a significant 92.3% (180 instances) boasting high readability. These figures suggest a commendable fidelity in information translation, substantial adherence to the linguistic and grammatical norms of English, and a predominantly fluent and comprehensible output. Nevertheless, the occurrences of less accurate translations (15.5%, 30 instances), less acceptable ones (7.2%, 14 instances), and those with medium readability (7.7%, 15 instances) underscore a palpable need for algorithmic refinement and underscore the intricacies and potential pitfalls of machine translation.

When examining the interconnectedness between syntactic strategy and translation quality, it becomes evident that the high prevalence of 'Literal Translation' and subsidiary strategies such as 'Transposition' inherently impact the proficiency of Google Translate in maintaining high standards of accuracy, acceptability, and readability. Despite the generally high-quality translations, with accuracy and acceptability both exceeding 80%, the presence of less accurate and medium readability translations underscores that the prevailing syntactic strategies, while substantially effective, are not entirely foolproof. Thus, the observed discrepancies in translation quality illuminate potential areas for algorithmic enhancements, signaling avenues for future research and development in this fascinating confluence of linguistics and artificial intelligence.

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