Investigating Semantic Errors in English to Indonesian Translations : A Case Study of Deepl Translator

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Abstract. *This study focuses on investigating semantic errors in English to Indonesian translation using DeepL Translate, with the aim of evaluating the extent of semantic accuracy of this translation tool. This study uses a qualitative approach with a case study design, where data is collected by observing translations during a conversation between a native English speaker and a native Indonesian speaker. Each translation was analysed using a qualitative descriptive method to identify semantic errors, which were classified into three categories: inappropriate word choice, loss of implicit meaning, and ambiguity of sentence structure. The results showed that out of 50 translated sentences, there were 15 semantic errors, with inappropriate word choice being the dominant category. The conclusion of this study is that while DeepL is capable of producing relatively good translations, its limitations in understanding semantic context remain a significant bottleneck. The study recommends further development of the automatic translation algorithm and training of users to use the technology critically and judiciously.*

Keywords: Deepl Translate , English to Indonesian Translation, Semantic Errors,

1. INTRODUCTION

In the era of globalization, translation plays an important role in supporting communication across languages and cultures (Sawant, 2010). Translation helps convey ideas, information and cultural values between individuals or groups speaking different languages. With the advancement of technology, artificial intelligence (AI)-based translation tools such as DeepL, Google Translate and Microsoft Translator have become popular solutions to fulfill this need. However, the use of this technology often causes problems, especially regarding the accuracy of the translated meaning. As Al-Sulaimaan & Khoshaba (2018) points out, translation is not just about replacing words from one language to another, but also maintaining the integrity of meaning in context. Although translation technology has shown significant improvements, the challenge of ensuring translation quality is still a major concern. One of the most problematic aspects is semantic error, which is the mismatch between the original meaning of the source text and the translation (Koteva, 2017). These errors can arise due to the algorithm's limitations in understanding cultural contexts, idioms, or specific language structures. According to research by Naveen & Trojovský (2024), automatic translation often fails to capture nuances of meaning, especially in texts rich in semantic context.

DeepL, one of the most popular AI-based translation tools, is known to have better accuracy than its competitors in many cases (Kamaluddin et al., 2024). However, it is still not immune to criticism, especially regarding its ability to understand and translate semantic context in complex texts. Further analysis is needed to evaluate the extent to which DeepL is able to provide accurate translations in Bahasa Indonesia, especially in handling English texts full of implicit meanings. As stated by Fitria (2021), the effectiveness of automatic translation tools depends heavily on the complexity of the text and the characteristics of the target language. Semantic errors in translation not only reduce the accuracy of the message, but can also lead to misunderstandings with serious repercussions in various contexts, such as education, business or diplomacy (Ummi Uswatun Khasanah Rahman, 2019). For example, misinterpretation of meaning in legal documents or business contracts can lead to conflict or financial loss. Therefore, this study is important to evaluate the extent to which tools such as DeepL can be relied upon in producing accurate translations, especially for critical texts.

Based on the above background, the problem formulations in this study are: "What forms of semantic errors are found in the translation of DeepL from English to Indonesian?". This question will serve as the basis for identifying and analyzing the types of errors that appear, as well as finding out the factors that cause them. By focusing on these issues, this research is expected to make a significant contribution to understanding the weaknesses and strengths of DeepL as a translation tool. This study aims to investigate semantic errors in automatic translations generated by DeepL from English texts into Bahasa Indonesia. As stated by Yuxiu (2024), in-depth research on translation errors can help the development of better AI technologies in the future. On a side note, this research also opens up opportunities for further studies on automatic translation in other languages with unique characteristics.

2. METHOD

This research uses a qualitative approach with a case study design to explore semantic errors in DeepL Translate's output from English to Bahasa Indonesia. The primary goal of qualitative data collection techniques is to gather textual data for research and analysis (Ugwu, Chinyere, N; Eze Val, 2017). This approach was chosen to enable in-depth analysis of semantic errors in the context of interlanguage communication. Data analysis was conducted by descriptive qualitative method to identify, categorize, and explain the forms of semantic errors found. This study involved two participants, a native Indonesian speaker and a native English speaker, who each spoke in their own language with the help of automatic translation from DeepL Translate as the main object of observation.

Data collection was conducted through direct observation of the communication process between participants using DeepL Translate. Both participants were asked to communicate for 10 minutes about self-introduction, hobbies, experiences, and future plans. Each participant spoke in their home language, and each sentence they spoke was automatically translated into the other language using DeepL Translate. The researcher recorded the translation of each sentence in detail, including the context of the conversation and possible semantic errors. These notes were then used as material for further analysis.

The analysis procedure began by identifying any semantic errors in the translation based on the meaning discrepancy between the source text and the translated text. These errors are then classified into categories such as inappropriate word usage, ambiguous sentence structure, or loss of important meaning elements. The analysis also includes an exploration of factors that may have caused the errors, such as the complex context of the conversation or the limitations of the DeepL Translate algorithm. With this approach, the research aims to provide deeper insights into the weaknesses and strengths of DeepL in handling interlanguage translation.

3. HASIL PENELITIAN

Identification of Semantic Errors

The observation shows that DeepL Translate produces several semantic errors in translating sentences from English to Indonesian and vice versa. Out of a total of 50 sentences translated during a 10-minute conversation, 15 significant semantic errors were found. These errors include the use of words that do not fit the context, the loss of nuances of the original meaning, and the rearrangement of sentence structure that makes the meaning ambiguous. For example, the English sentence "*I look forward to visiting new places in the future*" was translated as "*Saya menantikan untuk melihat tempat baru di masa depan*". This translation lacks the full meaning of the phrase "*look forward to*", which emphasises enthusiasm.

Categories of Semantic Errors

The semantic errors found can be divided into three main categories: (1) inappropriate word choice, (2) loss of implicit meaning, and (3) ambiguity of sentence structure. Inappropriate word choice occurred in 8 sentences, mainly when translating terms or phrases that have specific contextual equivalents. Loss of implicit meaning occurs in 5 sentences, mainly when the source text contains idioms or figurative expressions. Sentence structure ambiguity is found in 2 sentences where the translation contains double meanings that confuse the reader.

Analysis of Inappropriate Word Usage

The most common case is the use of words that do not fit the context. For example, the English phrase "He has a knack for solving problems" is translated as "*Dia memiliki bakat untuk menyelesaikan masalah*". Although technically correct, the use of the word "*knack*" here feels less natural in Indonesian. A more appropriate translation would be "*Dia ahli dalam menyelesaikan masalah*". Errors like this show that DeepL has not fully understood the deeper semantic context in the source text.

Loss of Nuances of Implicit Meaning

The loss of nuances of implicit meaning often occurs when the source text uses idioms or figurative expressions. For example, the English idiom "It's raining cats and dogs" is translated as "*Hujan kucing dan anjing*". DeepL does not recognize that this idiom means "*downpour*" in a figurative context. This error indicates that the DeepL algorithm tends to translate literally, especially for expressions that are not common in its training data corpus.

Ambiguity in Sentence Structure

Ambiguity in sentence structure is found in sentences such as "*She gave him a book about history*", which translates to "*Dia memberikan dia sebuah buku tentang sejarah*". This structure causes confusion as it is not clear who received the book. These errors highlight the need for better algorithm development to deal with the complexity of language structures involving multiple subjects and objects.

Table 1. Semantic Error Distribution

Error Category	Number of Errors
Inappropriate Word Selection	8
Loss of Implicit Meaning	5
Sentence Structure Ambiguity	2

4. PEMBAHASAN

The results show that translation using DeepL Translate still has significant weaknesses in handling semantic context. Of the 50 sentences analysed, 15 semantic errors were found, falling into three main categories: inappropriate word choice (8 errors), loss of implicit meaning (5 errors) and ambiguity of sentence structure (2 errors). These errors are mainly due to the limitations of the DeepL algorithm in understanding cultural contexts, idioms and complex language structures. Although DeepL is generally able to produce reasonably good translations, these errors remain an obstacle in achieving accurate cross-language communication. This finding is consistent with previous research showing that automatic

translation tools often struggle to capture complex semantic meanings. Doherty (2016) found that translation algorithms tend to focus on literal substitution rather than understanding the holistic context of the text. Nurcahyani & Adika (2024) research also reveals that systems like DeepL have strengths in translating simple sentences, but struggle in handling idioms and unusual language structures. Thus, this study confirms that although translation technology has advanced, the challenge of understanding semantic context is still not fully solved.

In reality, these semantic errors can cause major problems, especially in professional contexts such as legal, academic or business documents, where accuracy of meaning is crucial (Letsoela & Matlosa, 2022). In contractual documents, for example, errors in the translation of technical terms or idiomatic phrases can lead to misinterpretations that cause conflicts or financial losses (Sofyan & Rosa, 2021). Furthermore, in educational contexts, translation errors can hinder the learning of foreign languages, as students may learn incorrect or inappropriate meanings (Wongranu, 2017). This reality suggests the need for critical understanding when using automatic translation tools such as DeepL. This research provides new insights into how semantic errors are not just technical, but also related to understanding local culture and context. For example, the literal translation of idioms such as "It's raining cats and dogs" into " Hujan kucing dan anjing" shows that the algorithm was not designed to recognise figurative meanings. An important idea that emerges from these findings is that the development of translation technology needs to incorporate more culturally and semantically diverse data in order to improve its performance.

The implications of the results of this study are significant. For end users, semantic errors can affect the effectiveness of communication, especially in situations where contextual understanding is crucial. For technology developers, the findings serve as a reminder of the need to improve translation algorithms to handle more complex language nuances. In addition, the results of this study also have implications for policies on the use of technology in educational institutions or companies, where training to understand the limitations of automatic translation tools is important. Steps need to be taken by a number of parties to address these issues. Technology developers such as DeepL can improve algorithms by expanding data training to specific cultural and linguistic contexts. In addition, end-users need to be educated on how to critically evaluate translation results before using them. In terms of education, teachers or lecturers can use the results of this study as a basis for teaching translation analysis skills to students. It is hoped that these measures will improve the accuracy of automated translation and minimise its negative effects.

5. CONCLUSION

This study reveals that although DeepL Translate is one of the widely recognized automatic translation tools, it still has significant weaknesses in handling semantic context, especially in English-to-Indonesian translation. From the analysis of 50 sentences, 15 semantic errors were found, including inappropriate word choice, loss of implicit meaning and ambiguity in sentence structure. These errors indicate that the DeepL algorithm is not yet able to fully understand cultural contexts, idioms and more complex language structures. Therefore, while this technology can help in cross-language communication, its use should be accompanied by a critical evaluation of the translation results.

We hope that these findings will provide valuable input for developers of automatic translation technology to continuously improve the quality of their algorithms. In a broader context, this research should also help users to understand the limitations of automatic translation tools, so that they can use them more thoughtfully and critically. In addition, the results of this study can serve as a reference for educational institutions or professional organisations when integrating translation technology into their activities, taking into account factors such as accuracy and context. As a suggestion for future research, a more in-depth analysis can be carried out with more participants, other languages or different types of texts, such as formal and informal texts, to see if similar patterns of errors occur. Research can also focus on comparisons between different automatic translation tools, such as Google Translate, Microsoft Translator and DeepL, to identify the advantages and disadvantages of each. It is hoped that this research will not only provide an overview of the limitations of current technology, but also encourage the development of better innovations in the future.

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