CHATGPT TRANSLATION PRODUCT ANALYSIS IN 'THE LITTLE MERMAID'

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ABSTRACT

This resesarch aimed to analyze the translation techniques used in the translation of the movie The Little Mermaid (2023) from English to Indonesian by ChatGPT. The research applied a direct observation approach by collecting data from the Scraps From The Loft website, translating the text of the movie The Little Mermaid (2023) from English to Indonesian by using ChatGPT, and analyzing it through translation theory and thematic categories to see the accuracy and effectiveness of the translation. Data were collected from the movie dialog excerpts and their translations provided by ChatGPT. The analysis used seven translation techniques, which include borrowing, calque, literal translation, transposition, modulation, equivalence, and adaptation. The findings show a diverse application of translation techniques, with the use of literal translation (48%), modulation (15%), and adaptation (15%). Literal translation is often used due to its simplicity and directnesws, while modulation is used to adapt the culture and linguistic nuances of Indonesian. Additionally, adaptation is also noted especially in translating cultural references and idiomatic expressions to maintain the original meaning and context. The research concludes that ChatGPT effectively utilizes various translation techniques to produce coherent and coherent translations.

Keywords: ChatGPT, movie, translation techniques

INTRODUCTION

Language is a form of communication used by humans. Every country and region has its unique language, which often poses challenges in understanding information related to a language that is not our mother tongue. To understand a foreign or source language, one must translate it into the target language. The translation process goes beyond simply replacing words from one language with another; it also requires a deep understanding of the cultural context, idioms, and nuances of meaning in each word and phrase. Therefore, translation is an important bridge that enables intercultural communication and the spread of knowledge worldwide. Additionally, translators must be sensitive to the grammatical and syntactical differences between languages and possess the skills to maintain the original style and tone of the source text so that the message conveyed remains accurate and true to the original author's intent.

Translation involves converting a source language (SL) into a target language (TL). It aligns with Newmark's (1988) definition, which describes translation as conveying the meaning of a text into another language in a manner consistent with the author's intent. The primary objective of translation is to effectively convey the author's ideas to the target audience in their native or familiar language. To accomplish this, the translator is responsible for creating accurate and easy-to-understand translations, ensuring that the source language's ideas are faithfully communicated in the target language. Jayantini (2016) mentions that there are seven types of procedures in the translation process: borrowing, calque, literal translation, transposition, modulation, equivalence, and adaptation.

Nadilla and Lubis (2023) analyze the types and frequencies of lexical errors produced by Instagram's machine translation when translating captions from the 'CNN Indonesia' Instagram account. Utilizing error classification framework, they identified ten incorrect word errors, eight unknown word errors, and four missing word errors. The prevalence of incorrect word errors suggests that Instagram's machine translation often struggles to select appropriate words, leading to inaccuracies in conveying the original meaning. The findings highlight the limitations of relying solely on machine translation for accurate information dissemination on social media platforms.

The research by Illiyin and Ibtisam (2019) reviews three previous studies relevant to the core issues or topics examined in the present research. It investigates the indicators used to assess translation quality, offering a critique of translations while highlighting paradigm differences among translation scholars. The research aims to facilitate the assessment of translation quality and feasibility, concluding three key aspects of the translation process: the accuracy of message transfer, the accuracy of message expression, and the linguistic nature of the translation.

Producing a high-quality translation is not solely the translator's responsibility; the reader's role is also significant, as they serve as the ultimate evaluators of the translated work. Achieving a good translation is a complex task, as translators face various challenges, particularly the issue of cultural equivalence, as not all source language expressions have direct equivalents in the target language culture. This research aligns with the research conducted by Illiyin and Ibtisam in terms of its core issue or research topic, namely, the evaluation of translation quality.

Araghi and Palangkaraya (2024) investigate the relationship between translation difficulty and machine translation quality, aiming to understand how varying levels of complexity impact AI translation performance. Using a combination of literature review and empirical investigation, they assess machine translation quality across texts with different difficulty levels, utilizing established evaluation metrics. The results indicate a significant correlation between translation complexity and machine translation quality, with increased difficulty leading to lower translation accuracy. The finding highlights the challenges AI-based translation systems face when handling linguistically complex and culturally nuanced content. The research aligns with research on machine translation quality by emphasizing the limitations of current AI translation tools and the need for improvements. Understanding the impact of translation difficulty on AI performance is crucial for developing more robust machine translation systems.

The previous research aligns with Marie et al. (2021), who conducted a meta-evaluation of 769 machine translation (MT) research papers to assess the scientific credibility of MT evaluation practices. Their research analyzes using automatic metrics, statistical significance testing, and human evaluations in MT research. The findings reveal that several research rely solely on BLEU scores without statistical validation or human assessment, raising concerns about the reliability of MT quality evaluations. This research aligns with studies on machine translation quality by emphasizing the need for rigorous evaluation methods to ensure credible and accurate assessments of AI-driven translation systems. Both this research and its predecessors rely on ChatGPT as the primary dataset for their research efforts. Additionally, English appears to be the predominant translation language across most of the previous research, emphasizing its importance as a widely used language for machine translation research.

Previous research has been conducted on the use of artificial intelligence related to neurology and translation quality. Liu et al. (2023) focus on assessing the translation quality of various Neural Machine Translation (NMT) systems, particularly in the context of political documents. They implemented six dominant NMT application systems available to evaluate their performance. The research provides insights into the effectiveness of these systems in translating complex and sensitive content, highlighting the strengths and limitations of current NMT technologies.

Translation can be done by human translators and online translation systems like ChatGPT, Google Translate, DeepL, QuillBot, and others. While human translators are often preferred for complex content due to their ability to grasp nuanced meanings and cultural contexts, online translation systems are widely used for simpler tasks because of their speed, efficiency, and ease of access.

Nowadays, ChatGPT is a widely recognized online translation system. It is built based on a deep neural network architecture using the Transformer model, designed for natural language processing tasks. Its ability to generate coherent and contextually appropriate text has made it a popular tool for various applications, including chatbots, language translation, and text generation (Hassani & Silva, 2023). However, the accuracy of translations produced by ChatGPT remains questionable and sometimes doubtful due to issues with incorrect grammar and inappropriate word choices. This point is also highlighted by Rusadi et al. (2023), who argue that despite advancements in AI translation systems, these tools often face challenges in maintaining linguistic precision. This is particularly evident when dealing with idiomatic expressions or context-dependent phrases, which can result in translations that sound unnatural or ambiguous in the target language.

Based on the shortcomings of ChatGPT, this research aims to explore and address several important aspects of the translation process. The research identifies the techniques used in translation and analyzes and determines the most frequently used techniques by ChatGPT's online translation system in translating *The Little Mermaid* movie. Thus, this research focuses not only on introducing various translation techniques but also on evaluating the

effectiveness and accuracy of these techniques when applied by online translation systems in the context of complex literary works (Peng et al., 2023).

Thus, the researcher is keen to explore the translation techniques used by ChatGPT in translating *The Little Mermaid* movie. This interest stems from the belief that understanding these techniques provides valuable insights into the functioning and efficacy of online translation systems such as ChatGPT, particularly when translating complex content such as literary works or films. By improving the understanding of the underlying mechanisms of these systems, this research aims to improve the accuracy and quality of automatic translation for increasingly complex content in the future (Hadiati et al., 2024).

METHODS

The data comes from the English-language movie The Little Mermaid, released in 2023, and is sourced from the publicly accessible website Scraps From The Loft. The site was chosen because it provides in-depth reviews and analyses of various films. Additionally, this site is considered highly credible and relevant to the research topic. The original English content, referred to as the source language (SL), is translated into Indonesian, the target language (TL), using ChatGPT. To collect data, the researcher employed the direct observation method as described by Creswell (2023), systematically gathering firsthand, detailed information. This approach involved gathering data from the publicly accessible website Scraps From The Loft, enhancing the reliability and depth of the findings. Heigham and Croker (2009) emphasize that observation aims to understand participant behavior during processes without judgment.

Data collection involves two primary techniques: translating the English text of the film into Indonesian using ChatGPT and reading both versions. This method ensured a detailed and comprehensive understanding of the film's content in both languages. The translation process is meticulously conducted to maintain the original context and nuances, allowing for a more accurate comparison between the English and Indonesian versions (Husein et al., 2023).

The analysis employs three techniques to ensure a thorough examination. First, sentences are analyzed using the theory of Vinay and Darbelnet (2000), which provides a robust framework for understanding translation practices. Second, sentences are categorized based on thematic relevance and contextual significance, enabling a structured evaluation. Third, representative sentences are recorded in a table for detailed examination and comparison. This systematic approach ensures that the translation practices are not only understood in theory but also evaluated for their practical applications, providing valuable insights into the effectiveness and accuracy of the translations.

RESULTS AND DISCUSSIONS

The data source is from all translation techniques contained in the subtitle of *The Little Mermaid* movie, which aired in 2023. The data focus on the types of translation techniques used in Vinay and Darbelnet's (2000) theory. There are seven translation techniques: borrowing, calque, literal translation, transposition, modulation, equivalence, and adaptation. Table 1 shows the data result.

Table 1 Data of Translation Techniques

No	Types	Frequency	Percentage
1	Borrowing	40	10 %
2	Calque	20	5 %
3	Literal Translation	190	48 %
4	Transposition	10	2 %
5	Modulation	60	15 %
6	Equivalence	22	5 %
7	Adaptation	60	15 %
	Total	402	100 %

Table 1 shows that the most frequently used translation technique in *The Little Mermaid* movie is literal translation with 48%. Additionally, the second most frequent techniques are adaptation and modulation, each contributing 15%, followed by borrowing at 10%. Calque and equivalence each represent 5%, and transposition is the least, with only 2%.

Borrowing is a translation technique that transfers words or terms directly from the source language to the target language. The technique directly incorporates words or expressions from the source language into the target language without translation. This approach is often employed when there is no equivalent term in the target language or to preserve the cultural context of the original text. For instance, research analyzing the translation of culturally bound expressions from Indonesian into English shows that translators often resorted to borrowing to maintain cultural meaning (Sumartini & Yadnya, 2018). Borrowing is useful for terms related to technology, culture, and other specialized fields where new or unique concepts may not yet have an exact equivalent in the target language. By using borrowed terms, the translator can ensure that the original meaning and nuances are accurately conveyed to the target reader, improving the accuracy and authenticity of the translation.

Table 2 explains an example of the borrowing translation technique. The word "idiot" is retained in English. This borrowing technique is used to preserve the emotional intensity or character nuance in the dialogue, ensuring that the original impact of the word is maintained in the translation.

Table 2 Data of Borrowing Technique in
The Little Mermaid

Original Sentence	Translated Sentence	Reason for Retention
She got legs, ya idiot!	Dia punya kaki, ya idiot!	To maintain emotional intensity character nuance

Source: (The Little Mermaid Movie, 2023)

The calque translation technique involves translating words or phrases from the source language into the target language by literally translating both the lexical (word) and structural (sentence structure) elements. This technique entails a direct translation of each component of the word or phrase, resulting in a translation that preserves the original structure and meaning of the source language. Calque is commonly used for translating technical terms, idioms, or unique cultural expressions, where maintaining the original composition can aid in introducing new concepts or enriching the target language.

Table 3 Data of Calque Technique in *The Little Mermaid*

Original Sentence	Translated Sentence	Reason for Retention
Brail up the foresail!	Brail di atas layar depan!	"Brail up" and "foresail" are technical seafaring terms preserved to maintain their specific meaning

Source: (The Little Mermaid Movie, 2023)

Table 3 explains the use of the calque translation technique. The technical terms "brail up" and "foresail" from the nautical field are preserved in the target language to maintain their specific meanings. This technique involves a literal translation without altering the meaning of the specialized vocabulary, ensuring they remain relevant and understandable within the original context, which in this case is sailing.

Literal translation is a technique that involves transferring the meaning of the source text into the target language word by word. In this technique, each word in the source language is replaced with its closest equivalent in the target language without regard to sentence structure or cultural context. This method aims to maintain the fidelity of the original text's meaning, but it may sometimes result in translations that sound unnatural or lack coherence in the target language.

Table 4 explains the use of the literal translation technique. In the original sentence "Yes, foolish enough to be taken with the human world." translated as "Ya, cukup bodoh untuk dibawa ke dunia manusia."

The translation closely follows a word-by-word approach, preserving the original sentence structure and meaning. However, this method may result in a translation that lacks the natural flow and idiomatic expression of the target language, as seen here. The focus is on maintaining the original meaning, though the sentence might sound less fluid or natural in the context of the target language.

Table 4 Data of Literal Translation Technique in
The Little Mermaid

Original Sentence	Translated Sentence	Reason for Retention
Yes, foolish enough to be taken with the huma world.	Ya, cukup bodoh untuk dibawa ke dunia manusia.	This translation follows a word-by-word approach, maintaining the original structure and meaning but potentially lacking naturalness in the target language.

Source: (The Little Mermaid Movie, 2023)

Transposition in translation techniques involves altering the sentence structure to make the translation more understandable in the target language without changing the original meaning. The technique is necessary because the sentence structures of the source and target languages can differ significantly. The transposition technique is crucial for maintaining the natural flow and clarity of the translated text, ensuring that readers in the target language can easily grasp the intended message without being confused by unusual or unfamiliar sentence structures.

Table 5 Data of Transposition Technique in
The Little Mermaid

Original Sentence	Translated Sentence	Reason for Retention
Clew up and stow the main course!	Angkat dan ikat layar utama, lalu simpan dengan rapi!	The translation process involves changing the grammatical structure from the source language to target language, maintaining natural flow and meaning.

Source: (The Little Mermaid Movie, 2023)

Table 5 explains an example of the transposition translation technique. The sentence "Clew up and stow the main course!" is translated as "Angkat dan ikat layar utama, lalu simpan dengan rapi!" The transposition technique involves changing the grammatical structure

from the source language to the target language. The alteration ensures that the translation sounds natural and is easily understood in the target language while preserving the original meaning.

Modulation in translation is a technique used to change the point of view, focus, or cognitive categories related to the source text. This technique allows the translator to convey the same meaning in a more appropriate and natural way in the target language (Setiawati et al., 2023). By using modulation, the translator can adjust idiomatic expressions, typical phrases, or sentence structures better to fit the norms and customs of the target language, ensuring that the reader can understand the original message without being hindered by linguistic or cultural differences.

Table 6 Data of Modulation Technique in
The Little Mermaid

Original Sentence	Translated Sentence	Reason for Retention
I need you to be more careful.	Aku butuh kamu lebih berhati-hati.	The adjustment ensures that the expression remains natural and aligns with the grammar and style of speech in Indonesian.

Source: (The Little Mermaid Movie, 2023)

Table 6 shows the modulation translation technique. The sentence "I need you to be more careful," is translated as "Aku butuh kamu lebih berhati-hati." The translation involves a shift in perspective or phrasing to make the expression more natural in the target language. This adjustment aligns the sentence with the grammatical structure and style of speech in Indonesian, ensuring that the meaning is preserved while also sounding fluid and appropriate for native speakers. This is in accordance with Rarasati et al. (2024), who argue that effective translation requires not only a word-for-word rendering but also an adaptation to cultural and linguistic contexts, ensuring that the translation resonates with the target audience while maintaining the integrity of the original message.

Equivalence in translation focuses on preserving the meaning, structure, and context of the original text in the target language. It involves various approaches to ensure that the translation remains faithful to the source material.

Table 7 demonstrates the equivalence translation technique. In this example, the sentence "She has a cat" is translated directly as "Dia punya kucing," preserving the exact wording and structure. This method effectively maintains the original meaning, providing a clear and straightforward translation. However, while it captures the basic content, it may not fully convey idiomatic expressions or contextual nuances that could enhance understanding in certain situations.

Table 7 Data of Equivalence Technique in
The Little Mermaid

Type of Equivalence	Explanation	Example
Literal Equivalence	Translates text word by word, preserving original wording and structure.	"She has a cat" → "Dia punya kucing" (Direct translation maintaining exact wording)

Source: (The Little Mermaid Movie, 2023)

Adaptation in translation involves modifying elements of the original text to make it more suitable for the target audience's cultural, linguistic, or situational context. This process helps ensure the translation is appropriate and resonates with the target readers.

Table 8 Data of Adaptation Technique in
The Little Mermaid

Type of Adaptation	Explanation	Example
Cultural Adaptation	Modifies cultural references to fit the target audience's cultural context.	"Thanksgiving dinner" → "Makan malam khas hari raya" (makes the reference understandable for Indonesians)

Source: (The Little Mermaid Movie, 2023)

Table 8 illustrates the adaptation translation technique. In this case, a phrase or expression from the source language is replaced with a culturally relevant equivalent in the target language. For example, the English phrase "It's raining cats and dogs" might be adapted to the Indonesian expression "Hujan deras" (it is raining heavily). This technique allows for a more natural and relatable translation, as it considers cultural context and idiomatic usage, ensuring that the message resonates with the target audience while preserving the intended meaning.

The translation of *The Little Mermaid* movie from English to Indonesian by ChatGPT demonstrates the application of various translation techniques as outlined by Vinay and Darbelnet (2000). These techniques include borrowing, calque, literal translation, transposition, modulation, equivalence, and adaptation. Literal translation and modulation are found to be the most frequently used techniques. Literal translation directly converts words from SL to TL while maintaining the original structure and meaning. Modulation, on the other hand, involves changing the form of the message by introducing a shift in perspective, which often results in a more natural and culturally appropriate translation.

The literal translation is primarily used for simple, straightforward dialogue, ensuring the original meaning is preserved without significant alterations. While this technique effectively maintains the source text's integrity, it can sometimes lead to translations that sound unnatural in the target language. Modulation is frequently used to address cultural and linguistic differences, making the translation more relatable and understandable for Indonesian audiences. For example, idiomatic expressions and culturally specific references are modulated to align the cultural context of the target language, ensuring that the intended meaning and tone are accurately conveyed.

Transposition and adaptation are also evident in the translation process. Transposition involves changing the grammatical structure of a sentence without altering its meaning. This technique is particularly useful in maintaining the natural flow of sentences in Indonesian, given the differences in grammatical structures between English and Indonesian. Adaptation is used to translate cultural references and idioms that have no direct equivalents in Indonesian. By adapting these elements, the translation retains the original's cultural essence while making it accessible and meaningful to the target audience (Koh, 2023).

One of the primary challenges observed is the occasional awkwardness in translated dialogues, which results from the reliance on literal translation. While maintaining fidelity to the source text, some phrases sounded unnatural or stilted in Indonesian. Additionally, certain cultural nuances and idiomatic expressions in English lack direct equivalents in Indonesian, posing a challenge for accurate translation (Putra et al., 2024). Despite these challenges, ChatGPT's translation maintains a high degree of accuracy and coherence. However, further refinement could improve naturalness and readability (Hadiati et al., 2024).

The findings highlight the strengths and limitations of using ChatGPT to translate culturally rich content such as movies. The effective use of various translation techniques indicates ChatGPT's potential to provide accurate and contextually appropriate translations. However, the occasional awkwardness and cultural mismatches suggest the need for continuous improvement in machine translation systems.

CONCLUSIONS

The research concludes that literal translation is the most dominant technique, constituting 48% of the data. Adaptation and modulation technique each account for 15%, while borrowing accounts for 10%. Calque and equivalence technique each represent 5%, and transposition is the least used technique, at just 2%. These findings suggest that literal translation is preferred for its directness. However, modulation and adaptation are frequently applied to address cultural

nuances, ensuring the translation remains both accurate and contextually appropriate for the target audience.

One limitation of the research is its focus on a single film, which may not fully reflect various translation techniques applied in different genres or contexts. Additionally, while the frequency of each technique is analyzed, the effectiveness of each technique in conveying meaning and cultural context was not deeply explored.

Future research could expand this research by comparing translation techniques across various film genres or investigating how these techniques affect audience reception. Moreover, future research could explore the integration of more advanced cultural and contextual understanding in machine translation algorithms. Additionally, a comparative analysis between machine translations like ChatGPT and human translators could also provide insights into the strengths and weaknesses of automated translation systems, potentially leading to improvements in cultural sensitivity and naturalness in machine-generated translations.

REFERENCES

Araghi, S., & Palangkaraya, A. (2024). The link between translation difficulty and the quality of machine translation: A literature review and empirical investigation. *Language Resources and Evaluation, 58*, 1093-1114. https://doi.org/10.1007/s10579-024-09735-x

Creswell, J. W. (2023). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.

Hadiati, C., Muttaqin, U., & Yulianita, N. G. (2024). Speech acts in the closing speechof the G20 summit by president Joko Widodo "We Must End the War." *Lingua Cultura, 18*(1), 97-105. https://doi.org/10.21512/lc.v18i1.11692

Hassani, H., & Silva, E. S. (2023). The role of chatGPT in data science: How AI-assisted conversational interfaces are revolutionizing the field. *Big Data and Cognitive Computing, 7*(2), 62. https://doi.org/10.3390/bdcc7020062

Heigham, J., & Croker, R. A. (2009). *Qualitative research in applied linguistics: A practical introduction.* Palgrave Macmillan.

Husein, I. W., Syaifullah, A. R., & Kurniawan, E. (2023). Indonesians and Americans bilingual request strategies in Indonesian and English. *Lingua Cultura, 18*(1), 11-19. https://doi.org/10.21512/lc.v18i1.10689

Illiyin, N. K., & Ibtisam. (2019). Quality indicator of translation text. *English Language and Literature International Conference (ELLIC) Proceedings, 3*, 2579-263.

Jayantini, I. G. A. S. R. (2016). *The art of translating: Theory and analysis.* Cakra Press.

Liu, S., & Zhu, W. (2023). An analysis of the evaluation of the translation quality of neural machine translation

application systems. *Applied Artificial Intelligence, 37*(1). https://doi.org/10.1080/08839514.2023.2214 460

Marie, B., Fujita, A., & Rubino, R. (2021). Scientific credibility of machine translation research: A meta-evaluation of 769 papers. *Proceedings of the 59ᵗʰ Annual Meeting of the Association for Computational Linguistics and the 11ᵗʰ International Joint Conference on Natural Language Processing* (Volume 1: Long Papers), pp. 7297–7306. Association for Computational Linguistics.

Nadilla, R., & Lubis, S. (2023). Lexical errors made by Instagram machine translation in translating the account of 'CNN Indonesia' news article. *LingPoet: Journal of Linguistics and Literary Research, 4*(1), 30-45. https://doi.org/10.32734/lingpoet.v4i1.10455

Newmark, P. (1988). *A textbook of translation*. Prentice Hall.

Koh, S. (2023). An analysis of ChatGPT's language translation based on the Korean film Minari. *Journal of English Teaching through Movies and Media, 24*(4), 1-14.

Putra, I. G. A. C. S., & Tustiawati, I. A. M. (2024). Language attitudes and practices in multilingual settings: Case study of university students in Bali. *Lingua Cultura, 18*(1), 89-96. https://doi.org/10.21512/lc.v18i1.11506

Rarasati, I., & Zawawi, M. (2024). Critical discourse analysis on representation of Arab Spring in the movie Alephia 2053. *Lingua Cultura, 18*(1), 11-19. https://doi.org/10.21512/lc.v18i1.10743

Rusadi, A. M., & Setiajid, H. H. (2023). Evaluating the accuracy of Google translate and ChatGPT in translating Windows 11 education installation GUI texts to Indonesian: An application of Koponen's error category. *English Language & Literature International Conference, 6,* 698-713.

Setiawati, S., Sari, I. P., & Anggraini, Y. (2023). Enhancing English language learning through mind mapping: A case study of students' engagement and effectiveness. *J-Shelves of Indragiri (JSI), 5*(1), 98-110. https://doi.org/10.61672/jsi.v5i1.2660

Sumartini, N. L. P. U., & Yadnya, I. B. P. (2018). Borrowing in the translation of culturally bound expression. *English Language and Literature International Conference (ELLiC) Proceedings, 2*, 327–333.

Vinay, J. P., & Darbelnet, J. (2000). *Comparative stylistics of French and English: A methodology for translation*. John Benjamins Publishing Company.