

## Prompting ChatGPT for Translation: Lexical and Syntactical Customization in Translation of “The Tree Rhyme”

Ardianna Nuraeni

[ardianna\\_n@staff.uns.c.id](mailto:ardianna_n@staff.uns.c.id)

English Diploma 3 Program, Vocational School, Universitas Sebelas Maret, INDONESIA

### Abstract

*With the advancement of ChatGPT, scholars are delving deeper into the tool's ability to generate various texts, including literary texts. It becomes potential due to the lack investigations on prompting ChatGPT for translating children's nursery rhymes, particularly in Indonesia, making to the novelty of this study. This article demonstrates how ChatGPT reacts to different prompts when translating a nursery rhyme “The Tree Rhyme”, by concentrating on the lexical and syntactical customization. This preliminary investigation was conducted in three phases: 1) prompt design, which includes one basic prompt functioning as a baseline for comparison and three other prompts functioning as clues to explain the case of linguistic customization; 2) text generation, which takes a level-2 nursery rhyme book entitled “The Tree Rhyme” from a digital repository, StoryWeaver; and 3) linguistic customization evaluation, which was done by comparing ChatGPT's translations in response to the four provided prompts and observing the lexical and syntactical customization. The findings reveal that ChatGPT's lexical customization includes changing the last word of stanzas, reducing the number of syllables, subtracting words, and displaying child-friendly expressions. These modifications cannot result in translations that maintain the original text's rhyme scheme. Regarding the syntactical customization, ChatGPT generates concise structures containing aspects of children's literature by reordering, unit shifting, sentence simplification, direct construction, and phrase simplification, but still unable to replicate the ST's rhyme scheme. In conclusion, ChatGPT changes diction and simplifies sentences when reacting to cues to translate the nursery rhyme, but it cannot preserve the ST's rhyme scheme.*

**Keywords:** ChatGPT; lexical customization; syntactical customization; nursery rhyme translation

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## Introduction

Translation was no longer understood as a human-to-human activity and communication only since 2022, when ChatGPT was publicly launched. It is because the translation activity workflow is increasingly embedded by the AI generative machine translation, demanding human-machine communication involvement (He, 2024). In this context, the existence of AI-powered technologies is increasingly recognized and accepted by human translators, particularly because the technologies save significant time during the translation process. As a result, advancements in a famous type of AI-powered translation technology, called Neural Machine Translation (NMT), enables Computer Aided Translation (CAT) Tools, which do not rely on the automatic machine translation, to continue to evolve (Dirghangi et al., 2022).

One of the most broadly used AI-powered technologies is ChatGPT, a large-scale language model that is primarily designed as an intelligent system of conversation, and is capable of performing human-like activity such as translating texts (Gao et al., 2023). ChatGPT is claimed to be a great smart AI tool to produce quality translation, which includes English-Indonesian language pairs. This technology evolution is naturally accompanied by the abundance of texts to be translated, ranging from information and technology texts, marketing texts, academic texts, legal texts, culinary texts, to literary texts.

Within the context of AI-powered translation technology, questions relating to performance of the tools are continuously under investigation by scholars because of the dynamic characteristic of language and human knowledge in producing texts, while translation with AI can only rely on the AI new training data and the emergence of large corpora (Kishore & Reddy, 2022). Because AI-powered translation technology is a computer, human training is the only way to improve its performance, which greatly relies on data entered and prompts provided. Prompt is understood as a command that can be used to instruct ChatGPT, and it is essential to ensure that it provides high-quality responses that users demand (Puppel & Borg, n.d.). That is why designing prompts should include the concept of “task-specific prompts”

and “domain-specific prompts” (He, 2024) to enhance ChatGPT’s translation performance. The method and design required to prompt ChatGPT for its good performance in translation motivates many scholars to investigate this intriguing topic.

Research on the application of AI in the discipline of translation studies and translation teaching and training has mainly been done by many scholars since the appearance of translation technology in the early 1990s (Alifa et al., 2023; Dirghangi et al., 2022; Kanglang, 2021; Li, 2024). However, most of them lay their area of discussion on the comparison between translation resulting from AI translator technology, human translator, and interactive AI-human translator (He, 2024; Lei et al., 2021; Mandarić & Juraj, 2022; Moneus & Sahari, 2024). The more specialized scope of research studies on AI in translation are still rarely found since only general AI translators are investigated, without specifically mentioning the type of the tool, although its application is already on specific text types such as non-literary texts, space science and technology, and informative texts (Ismailia, 2023; Lei et al., 2021).

In relation to literary texts translation, which becomes the focus of this study, this text type possesses some typical characteristics of language style, diction, typical sentence structures, and specific context that often create challenges for translators, especially literary texts written for children. There are abundance of studies conducted on translation in relation to literary works, particularly nursery rhymes, such as those focuses on the great degree of creativity needed to translate nursery rhymes (Nasi, 2012), equivalence in meaning and form in nursery rhymes translation (Pratama, 2017), similarities and differences between English and Chinese nursery rhymes in terms of sentence pattern, content, form, and culture (Sun & Zhejiang, 2021), forms of target text and techniques of adjustment in the translation of nursery rhymes (Haroon, 2023); and translating nursery rhymes employed by novice translators (Gamage & Bamunusinghe, 2024). However, there have not been many investigations on ChatGPT for translating children’s nursery rhymes, particularly in Indonesia, which has made them seem inferior. For that reason, this study is desired to fill the gap so that the result of this

initial investigation can be used as a part of further research.

Translating children's literature presents its own set of difficulties, especially when it comes to translating children's nursery rhymes. Nursery rhymes are commonly identified as "verses, poems, or short songs read, spoken, or sung to by small children to entertain them" (Gamage & Bamunusinghe, 2024). They further stated that nursery rhymes are distinguished by a rhyme that facilitates memorization, and translating them could be challenging because they display phonological, morphological, syntactic, and semantic linguistic features. Thus, a great degree of creativity will be very important to translate nursery rhyme, often considered as a poetry text (Nasi, 2012). Nursery rhyme is commonly found in children's literature or for "small children" aged 3-4 years old (Maclean et al., 1987). Therefore, it is important to consider sentence length and easy diction so that the nursery rhymes' message is easily understood by the children's target readers.

With respect to ChatGPT for nursery rhymes translation, a new poetry translation method called Explanation-Assisted Poetry Machine Translation (EAPMT) is proposed by Wang et al (2024), which contributes to examine ChatGPT-4's capabilities in English-Chinese modern poetry translation task. Unlike their study, this study used a Traditional Translation Method framework and examines classical nursery rhyme poetry, which is widely regarded as having a higher level of difficulty when translated, owing to its strict constraint on sentence length and rhyme.

He (2024) in his study, tested ChatGPT's performance when given four different prompts model with key features: basic, translation brief, author and translator. As He explained, the basic prompt, purposes to evaluate the translation of ChatGPT in a professional setting, includes information about translation command, the target language, and the purpose of the professional use. The second prompt involves text function, addressee, time, and place of text reception. The third and fourth prompts assign a persona to ChatGPT.

Utilizing He's methods for testing ChatGPT using one basic prompt and three different prompts having particular key features, this article investigates ChatGPT's performance on nursery rhyme translation task by designing one basic prompt and three more specialized prompts. However, only He's key feature of "addressee" is adopted here because nursery rhymes are typically written for specific addressee, i.e., children. Adopting Peng's terms of "task-specific prompts" and "domain-specific prompts" to refer to the three specialized prompts commanded to ChatGPT in this study. Those prompts explicitly state the target reader inclusion and the specific a a b b rhyme type as the characteristics of nursery rhymes. These different prompts commanded to ChatGPT benefit its users for assessing the resulted translations that is potentially done by comparing them to identify the cases of linguistic customization.

Linguistic customization means modifying linguistic descriptions to suit the demands of specific users, which includes simplifying technical terminology (Atkinson & Kühne, 2007). The two components of linguistic customization are lexical and syntactical (Wei, 2017), which become the main focus of this study, because, as stated before, nursery rhymes exhibit typical linguistic rhyming and syntactic patterns. Customization on lexical items, as Wei elaborated, could be indicated by expressions or other contextual information for each translation option, whereas syntactical customization deals with issues of syntax. Wei's most important note on customization of Machine Translation (MT), like ChatGPT, is that the users (of MT or ChatGPT) can attach sentences or phrases (read: prompt) to help the system add to the database for future translation benefits.

This article focuses on the discussion on linguistic customization in the English-Indonesian translation of an illustrated children's storybook, *The Tree Rhyme*, generated by ChatGPT, a well-known AI translator tool. This study is a preliminary analysis of ChatGPT prompts that emphasize the lexical and syntactic customization carried out by the AI technology. This topic is being researched with great interest because the nursery rhymes in the book story have poetry

characteristics in their lexical and syntactic aspects, as (Jones, 2011) notes that some poetry's features lie in its structure and syntax, which could be intriguingly generated by ChatGPT using some commands. Rooted by the subject of curiosity, this study tries to answer two problem questions: 1) how does ChatGPT respond to one basic prompt and three specialized prompts employing poetry characteristics when translating the children's storybook "*The Tree Rhyme*"? and 2) what kinds of lexical and syntactic customization produced by ChatGPT when given different prompts?

This study contributes to research on AI-assisted literary translation by revealing how ChatGPT customizes lexical and syntactical features when prompted to translate children's nursery rhyme. It offers new insights on prompt-based translation strategy, emphasizing ChatGPT's linguistic flexibility and limitations in preserving poetic elements.

## Methodology

This study falls under descriptive qualitative research, which focuses on discovering the nature of specific collected data from documents, i.e, a children's storybook *The Tree Rhyme* (Lambert & Lambert, 2012). It investigates descriptive data, rather than numeric data, taken from English written text of a children's storybook and its four Indonesian translation versions generated from the default model ChatGPT 3.5, that are presented and organized directly in a logical manner. This research design is chosen because the process of data collection is conducted simultaneously with the analysis (ibid).

The data source selected for this study is a level-2 nursery rhyme book about the life cycle and growth of a tree by describing its journey from a seed to a mature tree, titled *The Tree Rhyme*. This is one of English nursery rhyme books provided in StoryWeaver, an interesting digital repository providing abundance of multilingual illustrated stories for children from Pratham Books. Level-2 book, according to StoryWeaver, is a storybook displaying simple concepts and has up to 600 words. This illustration book was chosen due to its uncomplicated story, vocabulary, and rhyme, as well as its potential to be used as a pilot study of

English-Indonesian translation of nursery rhymes using ChatGPT. All of the eight stanzas having AABB rhyme scheme were taken as the first main data. The other main data was the Indonesian translations generated from ChatGPT in result to respond the user (read: researcher).

The first and second phase of this research is called prompt design and text generation or production, which were simultaneously conducted on July 9, 2024. There are four prompts tested in this pilot study, including one basic prompt functioning as a baseline for comparison, and three other prompts containing keywords relevant to the context of children's rhyme books: general end-rhyme, target readers, and specific rhyme, functioning as clues to explain the case of linguistic customization.

The basic prompt was written in a general imperative sentence in the default model ChatGPT 3.5 chat interface by only providing the target language information. This is due to a consideration that lay people tend to use simple common instructional words when asking others to do something. Later, this basic command was also included in the other three prompts, which were employed in a sequenced conversation with ChatGPT via the same chat interface. Such a command order design, presented in a natural flow of conversation, is intentionally done to meet the nature of how ChatGPT works, which "uses natural language processing to create humanlike conversational dialogue and is able to remember various questions to continue the conversation in a more fluid manner" (Hetler, 2025). The answer (read: the translation) of the basic prompt produced by ChatGPT was named Translation1 (TT1).

The second prompt was added with a command related to a general characteristic of nursery rhyme texts, i.e., the existence of correspondence of sound between endings of words. As a category of such poetry, words saying "by considering the end rhyme" were attached to this second prompt. This is indirectly intended to train the AI language technology ChatGPT about new information in recognizing rhymed texts in its future tasks. This second conversation starter was employed

after ChatGPT provided T1 in the chat interface. The second translation result is labelled Translation2 (TT2).

The same method was done to the third prompt, of which the second prompt with an additional command on rhyme consideration was copied and embedded with additional keywords related to information about the target readers' segmentation of the book, i.e., book for children. The pop-up result provided by ChatGPT was then titled Translation 3 (TT3).

The last prompt resulted in Translation 4 (TT4). This prompt was more specifically improved by mentioning a clear rhyme type of the original text to direct ChatGPT to translate the nursery rhyme text written in English into Indonesian more precisely, with the hope that TT4 would reveal interesting cases of linguistic customization. An overview of the four prompts is presented in Table 1 below.

**Table 1.** An overview of the prompts

Prompts	Content
Basic prompt	Translate this text into Indonesian.
General end rhyme	Please, translate this text again into Indonesian by considering the <b>end-rhyme</b> .
Target readers inclusion	Please, translate the text again into Indonesian for <b>children target readers</b> by considering the end-rhyme.
Specific rhyme type	Please, translate the text again into Indonesian for <b>children target readers with a a b b rhyme</b> .

The data analysis procedure starts with linguistic customization evaluation, which was categorized into two cases, i.e., lexical customization and syntactical customization. First, the comparison between the original text in English and its translation (TT1) generated from the given basic prompt was done, and TT1 is later used for the baseline translation for the next comparison. After that, TT1 was compared to TT2, TT3 and TT4 to reveal the demonstration of lexical adjustment from TT1 to TT2, TT2 to TT3, and TT3 to TT4. In the analysis of lexical customization, shifts on words, phrases, and clauses were thoroughly examined in the attempt to understand how ChatGPT responds to the four different prompts, particularly those that occurred due to the adjustments made by ChatGPT towards the characteristics of children's nursery rhymes. Then, it was continued by the investigation on syntactical customization cases. The syntactical customization was focused on the syntax changes within the four translation versions generated by ChatGPT, i.e., by looking into sentence simplification (Alva-Manchego et al., 2020) due to rhyme preservation, and the use of simple sentences for young readers.

## Results and Discussion

### 1. Basic Prompt for Baseline Translation (TT1)

Basic prompt commanded to ChatGPT was a general question asking the AI tool to translate the Source Text (ST) into Indonesian "Translate this text into Indonesian" with giving no specific clue on the ST type. Baseline translation (TT1) was directly provided within less than three seconds by ChatGPT. All stanzas in the ST obviously undergoes literal translation process - a process when the lexical words are translated single, out of context, while the grammatical structures of the Source Language are translated to their closest equivalents in the Target Language (Newmark, 1998), which proves that ChatGPT has a tendency to translate ST literally if its users command a general question in their prompt. These results major parts of TT1 less natural and is potential leading the readers into confusion, except those that already conform to the ST language structure. In addition, ChatGPT responds negatively in identifying the ST AABB rhyme scheme occurred within each stanza. **The eight stanzas** in the data are coded as "Stz1", "Stz2", "Stz3",

“Stz4”, “Stz5”, “Stz6”, “Stz7” and “Stz8”, while the line number of each stanza is coded as “Ln1”, “Ln2”, “Ln3”, and “Ln4”. The first three stanzas, taken from the data below, present the

result examples on how ChatGPT returns the given basic prompt.

**Table 2** ChatGPT Generation Given Basic Prompt

ST	TT1
ST-Stz1: First I’m a seed, then a bundle of roots, Then some leaves and a cluster of shoots. A longer branch and bunches of leaves, Thicker branches, roots, then a tree. <b>(AABB)</b>	TT1-Stz1: Pertama saya adalah biji, lalu seikat akar, Lalu beberapa daun dan sekelompok tunas. Sebuah cabang yang lebih panjang dan kelompok daun, Cabang yang lebih tebal, akar, lalu menjadi pohon. <b>(ABCD)</b>
ST-Stz2: You can’t see them but under my trunk, There’s a hidden part of me, a great chunk. It’s like very long toes reaching down, Deeper and beneath the ground. <b>(AABB)</b>	TT1-Stz2: Kamu tidak bisa melihatnya tapi di bawah batangku, Ada bagian tersembunyi dari diriku, bagian besar. Seperti jari-jari kaki yang sangat panjang menjulur ke bawah, Lebih dalam dan di bawah tanah. <b>(ABCC)</b>
ST-Stz3: My roots! So deep, hidden and protected, To most creatures they go undetected. My roots soak up nutrients and water, Without them I would be much shorter! <b>(AABB)</b>	TT1-Stz3: Akarku! Sangat dalam, tersembunyi dan terlindungi, Bagi sebagian besar makhluk mereka tidak terlihat. Akarku menyerap nutrisi dan air, Tanpa mereka aku akan jauh lebih pendek! <b>(ABCD)</b>

The literal translation process done by ChatGPT impact on the aspects of syllable count, rhyme, and diction, which are typical in children’s nursery rhymes. The aspect of syllable count becomes the most visible one, differentiating the number of syllables between ST and TT1. Expression of “a longer branch” in line 3 of the first stanza, which has four syllables in its original text, is then rendered into *sebuah cabang yang lebih panjang* having ten syllables. Other cases also happen in line 4 of the first stanza, line 3 of the second stanza, and line 2 of the third stanza – where the ST words of “thicker branches”, “very long toes”, and “most creatures” having four and three syllables – are translated into *cabang yang lebih tebal, jari-jari yang sangat panjang, and sebagian besar makhluk* having seven, nine, and eight syllables consecutively. There is a drift that literal translation produces a longer syllable-count translation.

The second typical aspect affected by Chat GPT’s literal translation process is rhyme. As stated by Jones (2011), the goal of a literal translation is to accurately capture the original meaning of a poem, but this is often hindered by discrepancies in word sounds. The fact is obviously seen in the data examples, which strongly proves that AABB rhyme scheme occurred in every stanza of the ST could not be preserved in TT1, which clearly changes into ABCD, ABCC, and ABCD rhyme scheme. This finding is also in agreement with Pratama’s (2017) investigation into nursery rhyme translation. She reveals that rhymes are frequently altered in the translated version, implying a lack of form equivalence.

The last impacted aspect is diction. Observation on dictions generated by ChatGPT in TT1 shows the occurrence of inconsistent and out-of-context dictions, like the first-person singular pronoun “I” in “I’m a seed” and “Without them I would be much shorter!” that

is distinctively translated into *saya* and *aku*. The translation *saya* in *Pertama saya adalah biji* sounds too formal to be presented as a children's story compared to that in the expression *Tanpa mereka aku akan jauh lebih pendek!* Another finding related to literal and out-of-context dictions produced by ChatGPT is in the parts where "a bundle of roots" is rendered into *seikat akar*, "bunches of leaves" into *kelompok daun*, and "a longer branch" into sebuah *cabang yang lebih panjang*. This becomes evident that the basic prompt commanded to ChatGPT puts aside the context of children's literature and does not accommodate the acceptability aspect.

## 2. Lexical Customization

As explained in the phases of this research methodology, the translation of TT1, which ChatGPT generated after being given a basic prompt, is then compared to TT2, TT3, and TT4 to discover the lexical adjustment demonstration. It is focused on the observation of shifts words, phrases, and clauses produced by ChatGPT in responding to the four different prompts.

### a. Demonstration of Lexical Adjustment from TT1 to TT2

The stage of comparing TT1 and TT2 resulted from prompt 2 "Please, translate this text again into Indonesian by considering the end-rhyme.", which highlights the important part of considering the end rhyme, was done to reveal sorts of lexical adjustments that occurred. Findings show that lexical adjustment done by ChatGPT is in the form of changing the last word of lines in stanzas, reducing syllable count, and omitting words.

#### i. Changing of the Last Word of Lines in Stanzas

Changing the final word of lines in stanzas is the most evident adjustment made by ChatGPT in response to prompt 2. The AI-powered technology translation most likely does this in an attempt to give the same AABB rhyme scheme in TT2 as it does in ST. There are only two stanzas, out of eight, the same end-rhyme as that in ST. These results are in line with Saptaningsih's & Nuraeni's (2019)

when they examined strategies to retain the beauty of poetic children's stories. They state that changing words with the new ones having similar or close meaning to the ST's is the best idea to keep the end words rhyming. The two following stanzas are instances presenting the success and the failure of ChatGPT in conforming to the AABB rhyme scheme in TT2 by changing the final word of lines.

ST-Stz1:

First I'm a seed, then a bundle of **roots**,  
Then some leaves and a cluster of **shoots**.  
A longer branch and bunches of **leaves**,  
Thicker branches, roots, then a **tree**.  
**(AABB)**

TT1-Stz1:

Pertama saya adalah biji, lalu seikat **akar**,  
Lalu beberapa daun dan sekelompok **tunas**.  
Sebuah cabang yang lebih panjang dan  
kelompok **daun**,  
Cabang yang lebih tebal, akar, lalu  
menjadi **pohon**.  
**(ABCD)**

TT2-Stz1:

Pertama aku adalah biji, lalu sekumpulan **akar**,  
Lalu beberapa daun dan tunas yang **segar**.  
Cabang panjang dan daun **bertumpuk**,  
Cabang tebal, akar, lalu pohon tumbuh **kokoh**.  
**(AABC)**

The production of ChatGPT in stanza 1 above clearly demonstrates how the last words, *tunas*, are altered to *segar* (line 2), *daun* to *bertumpuk* (line 3), and *pohon* to *kokoh* (line 4). Occasionally, the alteration results in a new meaning addition that is nevertheless still pertinent to the context of the story. The word *tunas* is modified by the added word (*yang*) *segar* in line 2, which actually manages to restore the original rhyme scheme to that found in line 2 of the ST. Regarding the original text's accuracy, the additional word clarifies the information about "shoots" that are often in the fresh state. The final rhyme scheme of

stanza 1 is AABC since the additional words *bertumpuk* in line 3 and *kokoh* in line 4 that ChatGPT recommended are unable to provide the same BB end rhyme as that in ST. Even though ChatGPT has been given a specific rhyme-related prompt, it has not been very successful in maintaining the original AABB rhyme scheme in the ST when the final word is changed. The majority of the lines in each of the storybook's stanzas discloses this information.

**ii. Syllable Count Reduction**

ChatGPT lowers the number of syllables in each line of stanzas when it is prompted to "consider the end-rhyme." This AI-powered technological translation, surprisingly, is able to identify and relate the commanded prompt to the sort of poetry content in this instance. Thus, ChatGPT automatically reduces the number of syllables (see the number in brackets) in response to the instruction. Data examples of the syllable count reduction in stanza 2 and stanza 6 could be seen in Table 3 below.

**Table 3** Data Examples of Syllable Count Reduction

TT1	TT2
TT1-Stz2: Kamu tidak bisa melihatnya tapi di bawah batangku, (18) Ada bagian tersembunyi dari diriku, bagian besar. (19) Seperti jari-jari kaki yang sangat panjang menjulur ke bawah, (20) Lebih dalam dan di bawah tanah. (10)	TT2-Stz2: Kau tak bisa melihat tapi di bawah batangku, (15) Ada bagian tersembunyi, cukup besar bagiku. (16) Seperti jari kaki panjang menjulur ke dalam, (15) Lebih dalam dan di bawah tanah. (10)
TT1-Stz6: Tiba-tiba ketika aku melihat sekeliling, (16) Aku melihat mereka semua mengelilingi. (16) Memakan tanah dan akar, (8) Menyebarkan tunas mereka yang lebih kuat. (15)	TT2-Stz6: Tiba-tiba saat aku lihat sekeliling, (14) Aku lihat mereka semua mengelilingi. (14) Memakan tanah dan akar, (8) Menyebarkan tunas yang kuat dan besar. (13)

Syllable count reduction occurs between two and five syllables in the major lines of stanzas 2 and stanza 6 above. The reduction is done by using word synonym having shorter syllable (*kamu – kau; ketika – saat*), omitting possessive pronoun (*-nya – Ø; dari diriku – Ø; tunas mereka yang lebih kuat – tunas yang kuat*), compressing noun phrase (*jari-jari kaki yang sangat panjang – jari kaki panjang*), omitting prefix (*melihat – lihat*), and omitting suffix (*mengelilingi – mengeliling*). This case also frequently appears in the other stanzas of the children's Book "The Tree Rhyme".

**iii. Word Omission**

The omission of words in a response to prompt 2 given to ChatGPT becomes the result of syllable count reduction. Repetitive concepts, redundant words, possessive pronouns, and conjunctions are among the terms removed. Table 4 shows the data found from the children's story.

**Table 4** Omitting Cases Done by ChatGPT in Responding Prompt 2

Omitting cases	Stanza & line number	TT1	TT2
Repetitive concepts	Stanza 7 line 1	Kemudian <del>selama ratusan dan</del> ratusan tahun,	Kemudian ratusan tahun berlalu,

Redundant words	Stanza 7 line 4	Mengatasi segala <del>macam</del> cuaca	Mengatasi segala cuaca
Possessive pronouns	Stanza 6 line 4	Menyebarkan tunas <del>mereka</del> yang lebih kuat	Menyebarkan tunas yang kuat dan besar
Conjunctions	Stanza 5 line 1	<del>Kemudian</del> dengan akar dan fondasi yang kuat	Dengan akar dan fondasi kuatku,

**b. Demonstration of Lexical Adjustment from TT2 to TT3**

After TT2 is generated, ChatGPT is instructed to translate the ST into Indonesian for young readers by taking into account the end rhyme. This is the third prompt. This prompt emphasizes how vital it is that ChatGPT pays closer attention to the children-category target readers and the rhyme at the end of each ST stanza. ChatGPT's lexical adjustment in response to the request includes

word subtraction and display of child-friendly expressions.

**i. Word Subtraction**

Word subtraction is the most visible discovery when TT2 is compared to TT3. The adjustment is made by ChatGPT in response to a command of young reader consideration, while also decreasing the syllable count at the same time. Stanza 3 below is the example.

**Table 5** Comparison of TT2-Stz3 and TT3-Stz3 Undergoing Word Subtraction

ST-Stz3	TT2-Stz3	TT3-Stz3
My roots! So deep, hidden and protected, To most creatures they go undetected. My roots soak up nutrients and water, Without them I would be much shorter!	Akarku! <del>Sangat</del> dalam, tersembunyi dan terlindungi, <del>Bagi</del> makhluk <del>kebanyakan</del> , <del>mereka</del> tak terlihat lagi. Akarku serap nutrisi dan air, Tanpanya aku takkan tinggi <del>menjulung ke langit</del> .	Akarku! Dalam, tersembunyi dan aman, Banyak makhluk tak tahu di mana tempatnya. Akarku minum air dan makan nutrisi, Tanpanya, aku takkan tinggi.

The words that are crossed in TT2 are those that are removed in TT3 as a result of prompt 3's instructions. In this instance, ChatGPT can provide a positive response to the prompt in order to generate text for young readers. This is in line with Puurtinen's statement (1998) saying that children's reading and understanding aspects are significantly impacted by linguistic difficulty, such as sentence length and sentence complexity. The fact that ChatGPT can perform words subtraction to make sentences shorter is in conformity with Shan's research (2021)

on nursery rhymes seen from reception aesthetics, which says that "short sentences are easier to remember and more convenient for children to readout".

**ii. Display of Child-friendly Expression**

ChatGPT responds positively prompt 3 by eliminating complicated words or phrases and producing straightforward language suitable for a child's cognitive level. These changes are evident in each of the story's stanzas. The following example from stanzas 3 demonstrates how ChatGPT can provide its users more kid-friendly expressions; nevertheless, by doing so, ChatGPT is unable to meet the end-rhyme scheme criterion.

**Table 6** Comparison of TT2-Stz3 and TT3-Stz3 Displaying of Child-friendly Expression

ST-Stz3	TT2-Stz3	TT3-Stz3
My roots! So deep, hidden and protected, To most creatures they go undetected. My roots soak up nutrients and water, Without them I would be much shorter!	Akarku! Sangat dalam, tersembunyi dan <b>terlindungi</b> , <b>Bagi makhluk kebanyakan, mereka tak terlihat lagi.</b> Akarku <b>serap</b> nutrisi dan air, Tanpanya aku takkan tinggi <b>menjulang ke langit.</b>	Akarku! Dalam, tersembunyi dan <b>aman</b> , <b>Banyak makhluk tak tahu di mana tempatnya.</b> Akarku <b>minum</b> air dan makan nutrisi, Tanpanya, aku takkan tinggi

ChatGPT is making both minor and major changes to every line. For example, the word *terlindungi* in line 1 is substituted with the simpler word *aman*, which is thought to be considerably more readable for young readers while maintaining the same meaning because the two words are interchangeable. The Great Dictionary of Indonesian Language, or Kamus Besar Bahasa Indonesia (KBBI), defines the term "aman" as "terlindung," or "protected or preserved from harm." The next lexical change is made in line 2, where the unsuitable phrase *bagi makhluk kebanyakan*—which can confuse young readers—is changed to *banyak makhluk*. Children can readily understand the significance of the modification because it uses simple language. Moreover, ChatGPT significantly modifies the expression *mereka tak terlihat lagi* into *tak tahu di mana tempatnya*. The use of pronouns *mereka* referring to *akarku* (*yang dalam, tersembunyi, and aman*) is actually the product of a literal translation procedure, which frequently results in less readable translations. Additionally, unlike the English language, the Indonesian pronoun *mereka* refers to the third-plural person, not to things like in English language. This may also cause children’s target readers to become confused. In contrast, the phrase *Banyak makhluk tak tahu* seems more appropriate and understandable in this context.

Another intriguing lexical change pertaining to child-friendly terms can be seen in line 3, where the phrase *serap nutrisi dan air*

is clarified with *minum air dan makan nutrisi* as the term ‘*serap*’ or ‘*menyerap*’ has a somewhat complicated meaning for young readers. The last line of stanza 3 *aku takkan tinggi menjulang ke langit* undergoes lexical adjustment by deleting hyperbole figure of speech – a form of exaggeration for emphasis (Britannia, 2024). Deletion of the exaggerating words *menjulang ke langit* does not bring any big consequence to the meaning loss of ‘I would be much shorter’ in ST; rather, it makes its meaning clear. These findings on how ChatGPT are able to change the TT2’s words into simpler and more explicit words reinforce Shan’s (2021) statement saying that words that are easier to understand and more appropriate for everyday situation fit the children’s special psychological needs.

**c. Demonstration of Lexical Adjustment from TT3 to TT4**

The last prompt commanded to ChatGPT is “Please, translate the text again into Indonesian for **children target readers with a a b b rhyme.**”, which specifically instructs the AI-powered technology to translate the ST by taking into account the target readers’ age group and the AABB end rhyme of each stanza. The results indicate that ChatGPT has not made significant lexical adjustments in its response to the prompt. Due to this, the rhyme scheme in TT4 is also mostly unchanged. Examples of TT3 and TT4 translation comparisons for stanzas 1 and stanza 2 are shown in Table 7 below.

**Table 7** Comparison of TT3 and TT4 Undergoing Lexical Adjustment

ST	TT3	TT4
ST-Stz1: First I’m a seed, then a bundle of roots,	TT3-Stz1: Pertama aku biji, lalu akar tumbuh,	TT4-Stz1: Pertama aku biji, lalu akar tumbuh, Lalu daun kecil dan tunas muncul.

ST	TT3	TT4
Then some leaves and a cluster of shoots. A longer branch and bunches of leaves, Thicker branches, roots, then a tree. (AABB)	Lalu daun-daun kecil dan tunas yang muncul. Cabang panjang dan daun bertumpuk, Cabang tebal, akar, jadi pohon kukuh. (ABCA)	Cabang panjang dan daun bertumpuk, Cabang tebal, akar, jadi pohon kukuh. (ABCA)
ST-Stz2: You can't see them but under my trunk, There's a hidden part of me, a great chunk. It's like very long toes reaching down, Deeper and beneath the ground. (AABB)	TT3-Stz2: Kamu tak bisa lihat tapi di bawah batangku, Ada bagian tersembunyi, cukup besar bagiku. Seperti jari kaki panjang menjulur ke bawah, Lebih dalam dan di bawah tanah. (AABB)	TT4-Stz2: Kamu tak bisa lihat, di bawah batangku, Ada bagian tersembunyi, besar bagiku. Seperti jari kaki panjang menjulur ke bawah, Lebih dalam dan di tanah mereka bertahan. (AABC)

According to the aforementioned examples, each stanza contains a little lexical change. Stanza 1 line 2, for instance, undergoes a change in the repeated word *daun-daun*, which have a plural connotation, and in the word *yang*, which functions as a modifier to the words that come before it. The deletion of the words *daun* and *yang* is performed by ChatGPT to conform with the prompt commanded by its user, i.e. to take into account of children's target readers, who can readily comprehend simple phrase structure. Elimination is also done by this AI-powered technology in stanza 2, where the conjunction word *tapi* in line 1 and *cukup* in line 2 are not displayed in TT4. However, line 4 has a special lexical adjustment since the words *di bawah tanah* are removed and replaced with the longer words *di tanah mereka bertahan*. Unfortunately, this results in the TT3's AABB rhyme scheme changing.

As demonstrated in the two stanzas above, ChatGPT is unable to adequately respond to two key commands in its prompt, namely, to consider the children's target readers and the AABB end rhyme scheme. ChatGPT falls short of the requirement of generating the same end-rhyme scheme as that in ST when it attempts to generate translation that is acceptable and readable for children. This aligns with Nasi's statement (2012) saying that the majority of translators,

when dealing with rhythmic structure in nursery rhymes, possibly neglect rhyme, as they will prioritize "the semantic", the meaning of words, over the rhyme.

### 3. Syntactical Customization

As stated in the phases of study methodology, syntactical customization analysis is carried out following the presentation of the lexical adjustment findings. This is done by comparing the syntactic adjustment demonstrations from TT1, TT2, TT3, and TT4 simultaneously. The outcome demonstrates that ChatGPT uses reordering, unit shifting, clause simplification, direct construction, and phrase simplification techniques to respond to the four prompts. All of them are under a term of sentence simplification – a sentence modification aiming to make it easier to read and understand (Alva-Manchego et al., 2020) and, according to them, one possible way to do it is by performing reordering. In this study, all of the procedures function to maintain clarity and straightforwardness in its translation and to make the translation easier for children to read and comprehend. Table 8 presents how ChatGPT performs syntactical customization on the data of this study.



TT2-Stz3-Ln2:

Bagi makhluk kebanyakan, mereka

Adv. S

tak terlihat lagi.

P-Adj.Phr

After commanded more specific prompt 3 and prompt 4, saying that ChatGPT has to take into account the children-aged target readers and AABB rhyme scheme, this AI technology makes replacement sentence component by changing the P-Adj.Phr. word class into Object (Obj.) and, at the same time, creating explicitly its meaning into *tak tahu di mana tempatnya*. Modifying the order of words becomes a familiar technique when working with children's poetic literature (Saptaningsih & Nuraeni, 2019), especially when the end-rhyme of lines in stanzas needs to be maintained.

## b. Unit Shifting

Unit shift is a translation strategy done when a translator must execute a required rewording due to incompatibilities between Source Language (SL) and Target Language (TL) in rank-rank correspondence between sentences, clauses, phrases, words, and morphemes (Shuttleworth & Cowie, 1997). This could be done within two varieties of the obligatory, due to linguistic motivation, and the non-obligatory, due to literary or cultural motivation (Toury, 1995). In this study context, the latter backgrounds the occurrence of the unit shift. The idea of (unit) shift, as suggested by some recent studies, can also be usefully applied to evaluate the results of machine translation (Cyrus et al., 2009), as the data in Table 3 produced by ChatGPT in this study.

The first example in the unit shifting category of the syntactical customization in Table 3 above experiences a shift from Noun Phrase (TT1, TT2, TT3) into a Clause (TT4), as seen in bold words. Noun Phrases *sekelompok tunas, tunas yang segar, and tunas yang muncul* is shifted into a Clause *tunas muncul* (S + P). The second example displays a unit shifting from Adv. (of time) *selama ratusan dan ratusan tahun* into a Clause *ratusan tahun berlalu*.

## c. Clause Simplification

Clause simplification in the first examples in Table 3 is done by ChatGPT when this AI translation technology shortens the clauses in TT1, TT2, and TT3. These three translations are in the form of complex clauses, characterized by the occurrence of chronological conjunctions *ketika* and *saat*, into simplex clauses, i.e., by removing the chronological conjunctions. ChatGPT's deletion was done in response to prompt 4, which calls for ChatGPT to take into account the AABB rhyme scheme and the target readers' age when producing translations. Another part simplified lies on the omission of the repeated idea *aku (me)lihat mereka*. Furthermore, the absence of the Indonesian adverb of time *telah* in TT1 and TT2, which results from the literal translation of an auxiliary verb "have" in ST, makes TT3 and TT4 simpler.

## d. Direct Construction

In this study, "direct construction" refers to clear phrase structures and diction that prioritize clarity and simplicity. TT4 has extremely direct construction and diction, and the syntactical shift process in TT1, TT2, TT3, and TT4 in the two samples of this category in Table 3 is quite evident. Particularly in TT3 and TT4, ChatGPT's direct dictions, which are generated in response to more detailed instructions, use language that is considerably simpler for young learners to comprehend. As demonstrated below, ChatGPT can surprisingly generate direct dictionaries utilizing the antonyms of the terms in TT1. In addition, this AI technology is also able to grasp the meaning of hyperbole figure of speech in TT2 and change it into simple common words by removing the figurative words *menjulung ke langit*.

TT1- Stz3-Ln4:

Tanpa mereka aku akan **jauh lebih pendek!**

TT2- Stz3-Ln4:

Tanpanya aku **takkan tinggi menjulang ke langit.**

TT3- Stz3-Ln4:  
Tanpanya, aku **takkan tinggi**.

TT4- Stz3-Ln4:  
Tanpanya, aku **takkan tinggi**

### e. Phrase Simplification

Phrase simplification means the act of doing phrase condensation. This technique is performed when ChatGPT receives prompts 3 and 4, which need the translation to include the children-aged reader category. By eliminating the possessive pronoun *mereka* (*tunas mereka yang lebih kuat*) and leaving out the explanatory word *yang* and the synonymous word *kuat* (*tunas yang kuat dan besar*), the phrase in the first example of this category is made simpler. The most common process of phrase simplification by ChatGPT in this study is to remove an explanation word, *yang*, to make the phrase a basic noun phrase with only a Noun + Adj. pattern.

In this study, incorporating specific prompts of end rhyme consideration, the children target audience, and specific AABB end rhyme type into ChatGPT prompts, changes the better translation output in the aspect of nursery rhymes' lexis and syntax. Whereas, the literal translation resulted from basic prompt examined in this study receive the worst outcome. This discovery reinforces Yamada's (2023) investigation on shifts in translation quality when he incorporated aspects of purpose and target readers to ChatGPT prompts. His findings reveal that the given prompts indeed alter the quality translation by industry standard. In addition, this research findings are also in line with He's (2024), when she examined the comparison between ChatGPT performance when commanded with basic brief prompt and three other prompts assigned with translation brief and persona, stating that the translation produced by ChatGPT using the translation brief prompt received the lowest ranking.

Analyzing the four different prompts given to ChatGPT, this study reveals that prompt 3 – the target reader inclusion prompt – distinctly generates and customizes translation with nursery rhymes features such

as short sentences and simple, easy-to-understand words. This discovery about ChatGPT's capability in response to child-audience prompts highlights the importance of target audience concerns while prompting the translation technology. This is what emphasized in functionalism theory – translation text serves certain communicative purposes for a specified source language audience (Yue, 2013). As a result, when asking ChatGPT to translate nursery rhymes, a child-audience prompt could be the best option.

### Conclusion

This study investigates how ChatGPT adapts lexically and syntactically when translating a simple children's nursery rhyme when it is given four distinct prompts, ranging from a basic general prompt to a more specialized one. When commanded with a basic general prompt, ChatGPT has a propensity to generate a literal translation that closely adheres to the sentence structure of ST while producing an end-rhyme scheme that differs from that of ST. A range of lexical customization is produced when TT1 is contrasted with TT2, TT3, and TT4, which are formed from prompts 2, 3, and 4. They are changing the final word of lines in stanzas, reducing syllable count, omitting words, subtracting words, and displaying child-friendly expressions. Although various lexical adjustments are performed, ChatGPT is actually unable to preserve the same AABB rhyme scheme as the original text.

Dealing with the observation on syntactical customization, five techniques of adjustments are performed by ChatGPT, namely replacement, unit shifting, clause simplification, direct construction, and phrase simplification. They all effectively create concise structures with elements of children's literature. To provide an easy-to-read translation, ChatGPT significantly simplifies sentences and modifies dictions, but it is unable to maintain the ST's AABB rhyme scheme. As a consequence, TT3 and TT4, which are thought to be the better translations of the first two, and are hence less poetic. Lastly, ChatGPT responds better on the prompts by simplifying sentences rather than maintaining the ST's rhyme scheme.

In conclusion, based on the results of lexical and syntactical customizations carried out by ChatGPT, this preliminary study on ChatGPT prompts in the case of translating children's nursery rhyme from English to Indonesian shows that this AI-powered technology still needs to struggle in producing children's translations with the same ST rhyme scheme.

To handle this challenge, therefore, human translators' involvement in identifying and implementing some areas for post-editing procedures is critically needed for the sake of the guarantee of quality translation, while a pressing need for future research on ChatGPT prompts pertaining to children's nursery rhymes has to be continuously conducted. Focus needs to be given to the extent of lexical and syntactical customization affects the transferred message's correctness.

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