

Academic Text Quality Improvement By English Department Students of University of Mataram : A Study on Pre-Editing of Google Neural Machine Translation

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Abstract: This study aims to determine the quality of students in pre-editing academic text input to GNMT. The participants in this study were students of the English Language Education Study Program, Faculty of Teacher Training and Education, the University of Mataram, who took the "Translation and Interpreting" course in semester five of the 2021/2022 Academic Year. This data was collected from assignments completed by 20 students. Supporting information is collected through observation by sitting while learning takes place. Data were analyzed using content analysis procedures such as identifying, categorizing, describing, and explaining. The results of this study indicate that almost all students have good quality results in pre-editing, but it could be better, and some students fail to pre-edit text. The pre-edited output looks like a revised version of the text. Pre-editing shows how the source text changes, especially in language structure, word choice, and punctuation. The good or bad quality of the GNMT translated text represents the student's ability in pre-editing the source text. Thus, the more effort is put into pre-editing the text context, the more likely it is to produce text with better translation quality by GNMT.

Keywords: Academic Text; Google Neural Machine Translation (GNMT); Pre-editing;

INTRODUCTION

Language is an act medium of communication. Language has a crucial function in human existence since it is a tool for ordinary human communication. Orally and in writing, a person can communicate ideas, thoughts, feelings, and facts through language (Firmansyah, 2019). English is an essential language that everyone should know and acquire because it is the most widely spoken and utilized language for worldwide communication (Hidayat, Baharuddin, & Isnaini, 2021). We know that only some people speak English fluently; therefore, it is essential to employ translation to comprehend the content in the original language. According to Catford (1965) in his book *A Linguistic Theory of Translation*, translation is the process of moving text from the Source Language (SL) to its equivalent in the Target Language (TL) (Hadi, Waluyo, & Baharuddin, 2021). The translation is the process of converting the meaning or message of one language into another. The translation is crucial in maintaining global links between inhabitants of different nations since it enables them to

communicate with foreigners who speak other languages (Latifah, Baharuddin, & Udin, 2022). Baharuddin (2022) Claims that the need for translation from another language (Source Language) to other languages (Target Language) has increased among people all over the world. People from diverse backgrounds across the world are distinguished by their language, culture, custom, and so forth. As a result, an effort in the translation process can be classified as truly important to do to understand each other resources.

Ayob (2015) identifies human, and machine translation as the two forms of translation available based on subject and technology. The translation process in human translation is carried out either entirely by humans or with the use of computer technology (Zulaika, Baharuddin, Wardana, & Farmasari, 2022). There are several techniques to translate our language into English nowadays. According to Husnunnisa (2022), several methods can facilitate the acquisition of our native language. These methods include understanding grammar and vocabulary, utilizing an English dictionary, and employing Neural Machine Translation

(NMT). According to Baharuddin et. al. (2021) machine translation is performed by machines using formulas programmed into the computer to enhance translation. Text from the source language is fed into an engine, which subsequently translates it into the target language. Neural MT provides three advantages. First, the NMT system understands the similarity between words. Second, considers all sentences in the translation process. Third, the NMT method can explore intricate language interactions (Untara & Setiawan, 2020). Neural Machine Translation is represented by Yandex Translate, Bing Translate, and Google Translate (NMT).

Google Translate is one of the world's most popular translation tools. The system employs Google Neural Machine Translation to enhance its fluency and accuracy. Together, massive data gathering and end-to-end design are utilized to create systems that give increasingly precise translations over time. Neural Machine Translation can handle even "zero-shot" translation. As direct translations, zero-shot translations, such as French to Spanish, are conceivable. The source language was translated into English first, and then the target language was translated back into the source language. Google Translate is used by nearly 500 million individuals, according to the most recent data from 2016 (Wikipedia, 2022)). As a result, the number of people who can utilize Google Translate will exceed 500 million by 2022. Google Translate is essential for anyone who works in foreign languages, such as students majoring in foreign languages. One of them is an English education student at the University of Mataram.

According to research conducted by lectures of English Education at the University of Mataram, Baharuddin et. al (2021) translation theory is applied when students edit Google Translate results. The University of Mataram stated that Google Translate continues to expand and improve because user contributions to translate scientific literature, primarily academic texts required by students, such as journal articles and academic textbooks, have not been publicly available. The study results reveal that students have not been able to correctly use translation theory, as the editing outcomes are translation theory, as the editing outcomes are not significantly different from those of Google Translate. Some ideas are not yet sufficiently

known to be adequately applied to the editing of texts translated by Google Translate.

Based on that, this research tried to answer the following question; How is the quality extent of English Language Education students at the University of Mataram use Google Neural Machine Translation to translate academic texts pre-editing? This study aims to determine the quality of students' pre-editing of input text for "Google Translate." This research will also examine the evolution of machine translation to assist students in learning and communicating in English.

LITERATURE REVIEW

1. Google Neural Machine Translation

According to Masaru Yamada, in 2016, Google introduced a neural machine translation (NMT) system that can address several deficiencies of standard SMT. Google NMT reduces translation errors by an average of 60% compared to Google SMT's phrase-based production system on the English-to-French and English-to-German benchmarks using a side-by-side human review on a set of isolated short sentences (Wu, et al., 2016). Google Translate is a free program made by Google that lets you translate words, documents, and even websites from one language to another in seconds. As of April 2021, Google Translate can translate between 109 languages; every day, it does so for more than 100 billion words. Even though most people think it does, Google Translate does not directly translate from one language to another. Most of the time, it first translates the source language into English and then the target language. Since most documents can be found online in English, the whole process is much simpler.

2. Pre-editing

Hutchins and Somers (1992) presented a comprehensive description of pre-editing and stated, "pre-editing involves checking source texts for foreseeable problems for the system and trying to eradicate them. It can include the identification of names, the marking of grammatical categories of homographs, indications of embedded clauses, breaking of coordinate structures, flagging or substitution of unknown words, etc." Likewise, Quah (2006) put forward that "the main task of pre-editing is to discover any elements such odd phrases or idioms or typographical errors that might create problems for the machine translation system

during the translation process. The human translator or editor amends the source language text accordingly". Pre-editing is adjusting and regulating the source text until the appropriate output is obtained. Pre-editing is altering and regulating the source material to achieve an appropriate result (Izri & Zine, 2019)

3. Academic Text

An academic text is a type of formal writing that has been studied and researched, is objective, exact, and direct, and can affect the people who read it. Melvin Colon, a freelance writer, says that academic texts include primary texts, even texts, and unique texts put together by experts or experts in specific fields. They are written in the right style and tone and use the right words. Since these are objective texts, they relate to the real world. They don't show the feelings and thoughts of the person who made them. Many dense, clear, precise, and well-organized scientific texts are out there. They rely on accurate data and proof that is free of redundancy, misrepresentation, funny questions, and emphases, and they tend to look at things from an outsider's point of view (Michael U. Henson, 2019).

4. Translation Theory

Numerous theories may be applied to help improve the good translation. To create accurate translations, translation operations can be performed not only by utilising the most appropriate technique but also by taking into account the aspects that influence the results of the translation, such as the target audience's ability to comprehend the mandate or message. According to Anam Sutopo, the Skopos theory developed by Vermeer is fundamentally a highly beneficial idea. This hypothesis indicates that the target audience is one of the most significant elements in determining the direction of translation. This is because the target reader will receive information in the form of the translation as a result of translation efforts. This is what Vermeer (translated by Chesermen, 1989: 222) means when he explains that 'Skopos' is a technical term for a translation's objective or intent (Sutopo, 2017)

5. Translation Quality

There are various factors to consider when judging translation quality. However, the fundamental principles remain the same, such as the correctness of the translation itself to attain fluency, or, in other words, the translation's purpose-based intelligibility. Angelone et al.

(2019) define sufficient as the extent to which a translated text has the same information as the source text. The translation must be correct in terms of meaning and accurate and acceptable in terms of information provision. Intelligibility is the clarity or ease with which a reader can comprehend a translation. According to Yusof et al. (2017), incompleteness is necessary for intelligibility. These requirements include readability, coherence, and completeness of thought.

METHOD

This study utilized a descriptive qualitative approach. Because it tries to describe the impacts of pre-editing academic text analysis on the GNMT translation inputs, this study is classified as descriptive and qualitative. The researcher want to examine how students will conduct Pre-editing on the academic text inputs when using Google Translate. It determined the student's ability to utilize the NMT in translation. Qualitative research is research that is descriptive and tends to use analysis. Process and meaning (subject perspective) are more highlighted in qualitative research. The basis utilization theory is a guide to focusing on research on the facts on the ground (Syafnidawaty, 2020).

This research data consist of translation tasks completed by students in the translation class at the University of Mataram. Input from the Pre-Editing text completed by students of English Education at the University of Mataram will be used in this study. Conduct classroom observations to monitor and understand how students respond to assignments in class or examine the pre-editing process with the knowledge to use these data to achieve the research purpose. Afterward, the gathered data will be analyzed utilizing a series of stages that will apply appropriately to produce quality findings. According to Miles et al. (2014), the procedures or steps of analysis include data consolidation, data presentation, and conclusion drawing/verification. During the condensation phase, the collected data is separated into numerous sections based on the state of the data and how well it matches the translation theories described in the framework. The data are then thoroughly analyzed and assimilated to help answer the study topic. In the data display, the analysis displays the data comprising the new version text not only in a broad manner but also

in a specific and understandable manner. Additionally, the study discusses selected sentences from a text previously altered from the source material. The above usable and categorized research data were evaluated and explained utilizing a framework comprised of a set of translation theories developed for this study. A rational conclusion and supporting evidence were submerged during the final round of analysis.

DISCUSSION

During the process of data collection, researchers conducted classroom observations. During pre-editing content learning, students are enthusiastic and diligent in their attempts to pre-edit the text provided by the lecturer. The lecturer elaborates on each sentence's meaning and the application of translation theory. Then, students attempt to improve their sentences by correcting grammar, word choice, punctuation, and subject/object before determining the appropriate vocabulary to create acceptable, natural, and understandable sentences for the text. Then, practice is required to match the source and target text's language. To determine an appropriate lexicon or phrase, students must use a dictionary to generate the correct target text in Google Neural Machine Translation. When producing a target text to analyze the differences between the original text and a pre-edited text, the research is continued by conducting tests and inputting text into Google Translate.

From the observation of the class situation some data were collected. Matched data will be collected for discussion and analysis of the sentence correction process in class. Abstracts and research methods were used as a form of academic text in this investigation. From the results of the assignments that have been given to students, 215 sentences have been collected from the text. The analysis and evaluation are carried out by applying translation theory and modifying it to determine the quality of the text based on adequacy and clarity.

Table 1. The quality of the text after conducting Pre-Editing

Criteria	Sentence
	Text 1
Good	196
Acceptable	19
Nonsense	-

According to the findings above, the quality of the text produced by students who performed pre-editing was good and acceptable. Students who pre-edit can produce high-quality pre-edited material by making modifications such as word choice, punctuation, subject/object substitution, phrase and sentence removal. In addition, some sentences in the text remained unchanged since some pupils did not perform a preliminary edit. Sentences containing no progression or change indicated that the students had yet to edit the paper beforehand. It is evident that students do not pay attention in class and are either apathetic or inactive. Participants, however, pre-edited the text and produced a new version of the pre-edited material.

The corrected text translation appears natural and acceptable. The language in text appears to be written in English. Several word additions in the revised version of the text enhance its readability. This makes Google Translate's translation into the target language easy to read. On the other hand, initial editing with the reduction or deletion of specific terms in the sentence appears necessary because the words are insignificant and make the translation extremely uncomfortable. Then, these words, which might make sentences problematic, must be eliminated to get a meaning consistent with the target language's grammar. Thus, pre-editing improves Google Translate's ability to translate content. The proportion of translation quality is depicted in the following graphic, which displays the translation results.

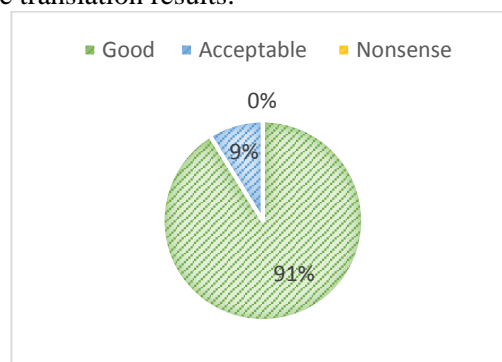


Figure 1. Diagram Percentage with the criteria of text quality

The percentage of text quality provided by students during pre-editing is depicted in the diagram above. This indicates that most pre-editing quality is "good" at 91%, followed by "acceptable" at 9%. There are no sentences that fall into the category of nonsensical.

Consequently, Google Translate can effectively translate both corrected and unedited text.

The source text of this study is a academic text that needs an editing process. The source text is the academic text in Indonesian language with

titled “Pelatihan Penggunaan Istilah-Istilah Teknis Bahasa Inggris Pariwisata Untuk Meningkatkan Profesionalisme Pemandu Wisata Lokal Di Dusun Ende Lombok Tengah” from Darma Diksani journal.

Table 2.. An example of text that produces the quality of the text with good criteria in conducting pre-editing

Text	Source Text	Pre-editing	GNMT
Text 1	Kegiatan pengabdian kepada masyarakat ini berupa pelatihan tentang penggunaan istilah-istilah teknis bahasa Inggris kepariwisataan bagi para pemandu wisata local di dusun Ende yang dilaksanakan di dusun Ende, Sengkol, Pujut, Lombok Tengah.	Kegiatan pengabdian masyarakat ini berupa pelatihan bagi pemandu wisata lokal di dusun Ende tentang penggunaan istilah teknis pariwisata bahasa Inggris, yang diadakan di dusun Ende, Sengkol, Pujut, Lombok Tengah. Kabupaten Lombok Tengah.	This community service activity is a training on how to use technical tourism in English for local tour guides which will be held in Ende Hamlet, Sengkol Village, Pujut District, Central Lombok Regency

Based on the text above, it is possible to convert source text to a new version of the text by improving aspects such as word choice and language structure to produce a proper translation of the target text. Through the initial editing of the source text, the results of the target text from the source text become easier for readers to understand. Changes to the previous text consist of choosing words and rearranging sentences, which can produce a new version of the text with text content that is easier to understand. This student is able to edit well and efficiently enough to improve the quality of the source text and target content so that the target text of the GNMT Pre-editing findings is clear and consistent with the source text, as evidenced by the paragraphs

above. Even though the translation in the pre-edited text/new version of the text is still imperfect in meaning from the point of view of native speakers, the text is already able to provide accurate information to the target text. Because the sentences were pre-edited by the students and the resulting text closely matched the source and target texts, the adequacy and clarity of the text were superior to other sentences of equally high text quality.

The researcher provides a second example of a sentence in conduct pre-editing by a student that is of high quality. However, slightly unsuitable in terms of the text's word equivalency.

Table 3. An example of text with quality categorized as good in pre-editing

Text	Source Text	Pre-editing	GNMT
Text 1	Kegiatan pengabdian kepada masyarakat ini berupa pelatihan tentang penggunaan istilah-istilah teknis bahasa Inggris kepariwisataan bagi para pemandu wisata local di dusun Ende yang dilaksanakan di dusun Ende, Sengkol, Pujut, Lombok Tengah.	Pelatihan ini berupa penggunaan istilah-istilah teknis dalam bahasa Inggris yang berkaitan dengan pariwisata bagi para pemandu wisata lokal Ende yang telah dilaksanakan di desa Ende, Sengkol, Pujut, Lombok Tengah.	This training is in the form of using technical terms in English related to tourism for Ende local tour guides that have been held in the village of Ende, Sengkol, Pujut, Central Lombok.

The above sentence is changed in whole, like word selection, language structure, and reorganization of phrases to produce a new edition. This sentence's introductory phrase,

"Kegiatan pengabdian masyarakat ini," is changed to “Pelatihan ini berupa penggunaan istilah-istilah”. Actually, to get good text content, the ideal translation is that the words "kegiatan" and

"masyarakat" do not need to be eliminated from the original text so that the subject and object of this sentence remain distinct and the sentence is easier for the reader.

In addition, the changes of several words to the text, such as "dusun" for "desa" is an example of pre-editing results. The word change is intended to facilitate machine translation because machines are sometimes unable to differentiate between GNMT to be more precise and acceptable in the destination language. In Indonesian, it is acceptable to use "dusun" to refer to a location, but in English, "desa" is often used to indicate or describe a location, making it easier

for the reader to comprehend. As it is well known that hamlets are part of villages, a hamlet or another name adapted to the origin, customs, and socio-cultural values of the village community is formed within the village area. Thus, replacing "hamlet" with "village" improves the output in GNMT. Pre-editing the target text can produce translations with comma punctuation, which makes the text more comprehensible and logically consistent with the source text. Pre-editing-GNMT can therefore receive information from the new version of the text to generate text that fits the text's purpose and makes the target text better than before.

Table 4. An example of pre-editing text categorized as acceptable

Text	Source Text	Pre-editing	GNMT
Text 1	Pelatihan dilakukan dengan menyampaikan materi-materi berupa hand-out yang berisi daftar istilah-istilah Bahasa Inggris pariwisata beserta contoh pemakaiannya baik dalam bentuk kalimat-kalimat maupun teks paragraph.	Pelatihan dilakukan dengan menyampaikan materi-materi berupa buku saku yang berisi daftar istilah-istilah Bahasa Inggris pariwisata beserta contoh pemakaiannya baik dalam bentuk kalimat-kalimat maupun teks paragraph.	The training was carried out by delivering materials in the form of a pocket book containing a list of tourism English terms along with examples of its use in the form of sentences and paragraph text.

The only substantive change in the preceding sentence is the replacement of "handout" with "buku saku." In this sense, "handout" refers to a sheet to deliver material. According to the KBBI, a "buku saku" is a tiny, easily transportable guidebook that fits in a pocket and contains instructions. The preceding text is written in clear English.

Inaccurate information or messages are conveyed to the target text's readers due to the

text's recognized errors, which alters the text's meaning and can affect the translation quality. More sentences and material are translated and comprehended in certain aspects with greater precision. However, the following data illustrates particular instances in which pre-editing appears unnecessary. The source text is of high quality and simple for GNMT to translate.

Table 5. An example of a sentence that's nothing has changed or without conducting pre-editing on text

Text	Source Text	Pre-editing	GNMT
Text 1	Hasil yang diperoleh para peserta diharapkan dapat diterapkan dalam belajar bahasa Inggris secara mandiri agar penguasaan bahasa Inggris mereka semakin baik di masa yang akan datang agar menjadi pemandu wisata yang professional yang dapat bersaing dalam dunia global.	Hasil yang diperoleh para peserta diharapkan dapat diterapkan dalam belajar bahasa Inggris secara mandiri agar penguasaan bahasa Inggris mereka semakin baik di masa yang akan datang agar menjadi pemandu wisata yang professional yang dapat bersaing dalam dunia global.	The results obtained by the participants are expected to be applied in learning English independently in order their mastery of English will get better in the future so that Become a professional tour guide who can compete in the world global.

Upon additional inspection, some data from the student's assignments lacked any pre-

editing in many sentences and paragraphs, like the example in the preceding phrase. The

sentence can be read in its entirety with no adjustments or alterations. Word selection, order, and sentence structure are consistent with the original text; this does not mean that students never assist in pre-editing. Students must comprehend and evaluate tenses, sentence patterns, and potential translations that depart from the original text. Students must decide whether or not the statement is constructed appropriately.

Based on the previous explanation, it appears that students' ability in pre-editing source texts requires further encouragement and practice. Every student who has edited the source text is able to produce target text with good or bad text quality; however, for best results, students should gain a lot of experience with translating to gain a good understanding of the sentences in the source and target texts. For better text generation in other languages, research on GNMT and other machine translations is needed.

CONCLUSION

According to the findings, most students have adequate knowledge of pre-editing source text before its input into GNMT. There are a total of 215 sentences in this study's data set. In this study, researchers analyzed translation quality using Veermer's skopos theory as a guide. The results of this study reveal a satisfactory level of text quality in the translations produced by students during pre-editing. 91% of GNMT pre-editing quality was deemed "good," while 9% was deemed "acceptable." Based on these percentages, students' pre-editing translation of GNMT is of high quality. However, The students should still learn more about the difference between Indonesian and English rules of punctuation. In changing source text, students should master sentence construction either in bahasa Indonesia or in English. Expressions and idioms are also important matters in pre-editing. Students should be equipped with those sets of knowledge. Ensure that every word choice in the translation is plain and straightforward

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