

A COMPARISON OF TRANSLATION READABILITY BETWEEN GOOGLE TRANSLATE AND HUMAN TRANSLATOR IN THE MEDICAL BOOK ENTITLED ‘MEDICAL-SURGICAL NURSING’

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Abstract

This study aims to analyze the readability of translation outputs by Google Translate and human translator. This study was categorized as a descriptive qualitative research that the scale of readability level was used to analyze the data. The source text was the English text from the book ‘Medical-Surgical Nursing’, while the target text was the translation outputs produced by Google Translate. The Indonesian version of this book entitled ‘Keperawatan Medikal Bedah’ was used as the output of the target language which was produced by human translators. A questionnaire in the form of a Google Form was distributed to nine respondents to determine the readability level of each translation. The result showed that the percentage of readability level produced by Google were 52% highly readable, 29.6% readable, 16% somewhat difficult, and 2.4% very difficult. Meanwhile, the readability level of the human translation was 55.1% highly readable, 31.2% readable, 12.6% somewhat difficult, and 1.1% very difficult. The results indicated that there is a slight difference of 4% in the result of the readability level produced by Google Translate and human translators. The result of the translations prove that the result of Google’s translation is now more natural, almost as natural as human translation, and makes it easier to understand. However, the results of the translation produced by Google Translate still require an editing process by human translators to produce a more contextual translation.

Keywords: google translate, human translation, readability, translation

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INTRODUCTION

Translation is a process of translating text or concept in the source language into the target language. Translation relates to how the translator can understand an idea or concept in the source language and able to reproduce the concept with equivalent words or phrases in the target language. Moreover, a translation of a

text cannot be exactly the same in the target language, because of the characteristics or differences owned by every language as it is influenced by its different structure and cultural background (Darso, 2018).

Throughout the history of translation, translation does not only have a significant role in every aspect of society, especially in communication but also makes a huge impact on religion, politics, education, and other fields

(Racoma, 2018). Nowadays, in this 21st century, the use of translation increases in a global society as the demand for people living in a multilingual environment due to the coexistence of languages (Martin, 2016).

As the demand for the use of international language in every aspect of community, translator, or language users need a tool to help them easier in translating text or concept in the source language into the target language. The need tool of translation or machine translation cannot be desperate for a reason that not everybody has the same level of development and acquisition of a language. One language is always more dominant than the other due to the amount of language input received or language usage (Martin, 2016).

Google Translate is one of the free machine translations which was launched in 2006. This tool helps users to communicate and translate speech and text into a different language. This machine translation can give an immediate translation across 103 different languages in seconds (Gough, 2018). Moreover, Google Translate has apparently offered better performance than other machine translation tools (Seljan, *et al*, 2011) and becomes a top third-party website with an average score of 5.4 out of 6 (Gough, 2018). In recent years, Google has developed its system from Phrase-Based Machine Translation (PBMT) into high-tech Google Neural Machine Translation (GNMT) for some language pairs including English-Indonesia (Tempo, 2017). This MT claimed that the translation output can be getting more natural.

Furthermore, the Neural Machine Translation which is invented in the new Google' AI system, evaluates and translates the entire input sentences as a single unit for translation (V.Le, *et al* 2016). This contrasts with the old Google PMBT which breaks the input sentences into words and phrases to be translated independently and re-order them as a whole sentence in the correct grammar of the target language (V.Le, *et al* 2016). With the help of bilingual human raters, Google claimed that this GNMT is able to reduce the number of errors produced by more than 55-85% on several language pairs (V.Le, *et al*, 2016). However, despite Google Translate's performance as an

automatic system-based translator has been improved to the possibility of replacing human translation, the quality of this machine translation is still become an issue and concerned by some scholars.

When Google Translate was launched as RNT and developed to the PBMT system, some scholars revealed that this machine translation still has limitations. First limitation is there would be any particular word that did not exist in its corpora system (Sheppard, 2011). Second, Google Translate produced more errors than human translator, when it was used to translate cultural textbook. Those errors can be associated with the fact that Google Translate was not designed based on a linguistic and sociocultural aspect (Marjohan, 2013). Third, the other significant drawback of Google Translate that this machine was not always sensitive to recognize the context of the sentence being input (Sheppard, 2011). Google is still dealing with the problem of ambiguity and double meaning, which can produce translation output that is sometimes not equivalent to the meaning in the target language.

All of those drawbacks show that there is still a gap between the quality of a machine with human translation. However, on the other hand, a bilingual human translator is not always available at any time, and expensive as well as cost a lot in both labor and time (Aslerasouli & Abbasian, 2015). Meanwhile, in contrast to the human, Google Translate can be used in many situations and is easy to be accessed everywhere. Besides, it can translate a text much faster than human usually do. The significant thing is that the current Google Translate has been developed with a new GNMT system. This new system is claimed can produce natural translation as close to human translation. A previous study that was conducted by Budiharjo in 2019, studied about the quality of this GNMT proved that the translation output to some extent accurately translated into the target language.

A medical text becomes the intention because there is a limited study that has been conducted regarding the ability of this new Google Translate as the Google Neural Machine Translation in translating medical text. Further,

there are two main significant phenomena in the development of the translation of medical books from English into Indonesian. Those are 1) the process of absorption or commonly recognized as the adoption of several Latin or English Term, and 2) The process of finding the equivalent meaning in the target language (Wonodirekso, 2002; Handayani, 2009). Therefore, this study was conducted to analyze the quality of the translation results of Google Translate as the new GNMT in translating medical texts into the equivalent meaning to the target language and compare it with the translation results produced by human translators. The medical books that were used in this study are English medical book from Brunner and Suddarth entitled 'Medical-Surgical Nursing' twelfth edition and its translation in Indonesian version '*Keperawatan Medikal Bedah*'. The English book was used as the source text, in which some sentences from the English version were translated by Google Translate, while books in Indonesia was considered as the product translation performed by human translators.

Furthermore, the scale of readability level which is proposed by O'Brien (2010) was applied as an indicator to determine the readability level of both translation outputs. Moreover, there were nine respondents, who were nurses and academicians were asked to fulfill an open and close questionnaire to rate the readability of both translation outputs.

RESEARCH METHODS

This study was categorized as descriptive qualitative research that the scale of readability level was used as an indicator to determine the readability level of both translation outputs. The data were classified into source language (SL) and target language (TL). In which, the data of source language is in English and the target language was Indonesia. The source text was the English text from the book

'Medical-Surgical Nursing', while the target text was the translation outputs produced by Google Translate. Meanwhile, the Indonesian version of the book entitled '*Keperawatan Medikal Bedah*' was used as the output of the target language which was produced by human translators.

Furthermore, the questionnaire in the form of close and open questions was used to collect the data. The questionnaire was made in the form Google Form. The close question was used to collect the data regarding the readability level of the translation output rated by nine respondents who were nurses and academicians. Readability scoring level which is proposed by O'Brien (2010) was applied as an indicator. The scoring includes very difficult, somewhat difficult, readable, and highly readable. 51 sentences of the source language were listed side to side with the translation outputs of the target language. This made it easier for the respondent to read and understand the sentences both in the source and target language at the same time.

Moreover, for the open question, the respondents were asked to give comments about word or phrases of the sentence that made them difficult to understand the meaning and give suggestions regarding the correct translation that they consider easier to understand. After the data were collected from the respondents, the data were counted to know the frequency and percentage of the readability level based on the respondents' judgment and the total amount of each readability level. Moreover, the answers of the opened questions were used to support the analysis of each readability level which had been chosen by the respondents.

O'Brien (2010) was applied as an indicator. The scales include very difficult, somewhat difficult, readable, and highly readable.

Table 1. The four-scale of readability level produced by O'Brien (2010)

Scale	Indicator
<i>Highly readable</i>	The segment reads as if it were written by a native writer. It is easy to read and the reader had no cause to pause during reading.
<i>Readable</i>	The segment is relatively easy to read, but the reader may have had to pause slightly for processing or to jump backwards once in the sentence to re-read something.
<i>Somewhat difficult</i>	The segment does not read as if it were written by a native writer and the reader have had to pause once or twice during reading and/or jump backwards to re-read one or two phrases or words.
<i>Very difficult</i>	The segment is difficult to read because its structure does not conform to what is normally expected of a grammatical sentence in the TL. The reader would have to re-read to make any sense of it.

(Source: O'Brien, S. 2010. Controlled Language and Readability. Available at: https://www.researchgate.net/publication/265622592_Controlled_Language_and_Readability)

FINDINGS AND DISCUSSION

The objective of this study is to determine the translation readability of the translation outputs which were produced by Google Translate and human translators. Moreover, there are nine respondents include

nurses and nursing academicians who were asked to score the readability of each sentence in the form of a questionnaire. The tables below show the distribution of the readability score of the translation output produced by Google and human, as follow:

Table 2. Classification Table of the Readability Level Produced by Google Translate

Rate	Readability Level			
	HR (Highly Readable)	R (Readable)	SD (Somewhat Difficult)	VD (Very Difficult)
Total: 459	239	136	73	11
Percentage: 100%	52%	29.6%	16%	2.4%

Table 3. Classification Table of the Readability Level Produced by Human Translators

Rate	Readability Level			
	HR (Highly Readable)	R (Readable)	SD (Somewhat Difficult)	VD (Very Difficult)
Total: 459	253	143	58	5
Percentage: 100%	55.1%	31.2%	12.6%	1.1%

From the tables above, it can be seen that the total amount of highly readable data of Google Translation is 239 (52%) over 459 data. Meanwhile, the highly readable data of the human translators' output is 253 (55.1%) over 459 data. There is a difference in the highly readable data between Google and human translation output at around 2% or 14 data. Moreover, for the result of readable data, the translations output between Google Translate and human translators shows a difference of about 3%. In which, the readable data produced by Google Translate is 136 (29.6%), while 143 (31.25) data shown by human translation.

Furthermore, Google Translate produced 73 (16%) data which are categorized as somewhat difficult readability data, while 58 (12.6 %) somewhat difficult data translated by human translators. The result above indicates that there is about 4% or (15) dissimilarity data between Google and human translation outputs in a somewhat difficult readability category. From nine respondents, it was obtained 11 (2.4%) data classified as very difficult readability data, while the total amount of very difficult data produced by the human translators is 6 data or (1.3%) lower than produced by Google Translate. That is 5 (1.1%) categorized as very difficult data.

3.1 The Discussion of The Result of Readability of Translation Output

The four levels of readability score include highly readable, readable, somewhat difficult, and very difficult which were scored by

each respondent are discussed in this following discussion. There are some data for each level of readability that are provided and analysed as an example of each readability.

1. Highly Readable Data

A. Google Translation

• Datum 1

Sentence Number: 12

Frequency of Highly Readable Data: 7

SL : AIDS (CDC Category C: fewer than 200 CD4 T lymphocytes/mm3)

TL : *AIDS (CDC Kategori C: kurang dari 200 limfosit T CD4 / mm3)*

• Datum 2

Sentence Number: 13

Frequency of Highly Readable Data: 8

SL : Risk Factors:HIV is transmitted through bodily fluids by high-risk behaviour such as heterosexual intercourse with an HIV-infected partner, injection drug use, and male homosexual relations.

TL : *Faktor risiko: HIV ditularkan melalui cairan tubuh dengan perilaku berisiko tinggi seperti hubungan heteroseksual dengan pasangan yang terinfeksi HIV, penggunaan narkoba suntikan, dan hubungan homoseksual pria.*

In the translation of sentence number 12, there were seven respondents who categorized it as highly readable sentence translated by Google Translate. The translation of AIDS (CDC Category C: fewer than 200 CD4 T lymphocytes/mm³) into *AIDS (CDC Kategori C: kurang dari 200 limfosit T CD4 / mm³)* had already been accurate, since there is no difficult word or phrase that made the respondents found it hard to read and get the meaning of the sentence. Google Translate produced an equivalent meaning of the sentence number 12 as it was intended in the source language.

There were eight respondents who were scored the sentence number 13 as highly readable sentence that was produced by Google Translate. The translation could be easily understood by the respondents as the reader, because Google Translate translated each word into equivalent translation, so the meaning of the sentence could be transferred accurately in the target language, especially in the medical language.

B. Human Translation

• Datum 1

Sentence Number: 20

Frequency of Highly Readable Data: 7

SL : Loss of appetite

TL : *Kehilangan nafsu makan*

• Datum 2

Sentence Number: 28

Frequency of Highly Readable Data: 8

SL: Anorexia, diarrhea, gastrointestinal (GI) malabsorption, lack of nutrition, and for some patients a hypermetabolic state.

TL: *Anoreksia, diare, malabsorpsi gastrointestinal (GI), kekurangan nutrisi, dan bagi beberapa pasien mengalami status hipermetabolik.*

The translation of 'loss of appetite' into *kehilangan nafsu makan* in the sentence number 20 was categorized as highly readable sentence in the human translation by seven respondents. The translator accurately translated that sentence into '*kehilangan nafsu makan*' which has the equivalent meaning in the target language. So, the translation was easy to be understood by the respondents. This translation proves that the Google Translate with the new system called neural machine translation can produce a good translation. This also has been proven by other researchers. As it was conducted by Ahrenberg in 2017 that the translations produced by Google Translate were more similar to the source text and Budiharjo (2018) in his study revealed that in a very short duration of time, some elements were successfully translated into the target language by the new Google Translate.

There were eight respondents who did not find difficulties in reading the translation of sentence number 28 that was produced by the human translators. As it was categorized as a highly readable sentence in the human translation. The translator chose words and phrases that were equivalent in translating the sentence that could transferred equivalent meaning in the target language, so it could not shift the intended meaning in the source language. The translation into '*Anoreksia, diare, malabsorpsi gastrointestinal (GI), kekurangan nutrisi, dan bagi beberapa pasien mengalami status hipermetabolik*' have the equivalent meaning in the source language.

2. Readable Data

A. Google Translation

• Datum 1

Sentence Number: 15

Frequency of Readable Data: 6

SL : Clinical Manifestation: Symptoms are widespread and may affect any organ system.

TL : *Manifestasi klinis: Gejalanya tersebar luas dan dapat memengaruhi sistem organ apa pun.*

- **Datum 2**

Sentence Number: 16

Frequency of Highly Readable Data: 5

SL: Manifestations range from mild abnormalities in immune response without overt signs and symptoms to profound immunosuppression, life-threatening infection, malignancy, and the direct effect of HIV on body tissues.

TL : *Manifestasi berkisar dari kelainan ringan pada respons imun tanpa tanda dan gejala yang jelas hingga penekanan kekebalan yang dalam, infeksi yang mengancam jiwa, keganasan, dan efek langsung HIV pada jaringan tubuh.*

The translation of sentence number 15 which was produced by Google Translate, was categorized as readable datum by six respondents. The translation of *'Symptoms are widespread'* into *'gejalanya tersebar luas'* was the central problem that made them difficult in understanding the meaning of it. Although the whole meaning of the translation is understandable, for the medical readers the words *'tersebar luas'* seemed to be uncommon in the target language. He suggested that the whole sentence will be more understandable if the word *'tersebar luas'* is changed into *'metastasis'* because this word more common to be understood.

There were five respondents who rated the translation number 16 as the readable datum produced by Google Translate. The problems are found on the translation of *'manifestations range'* into *'manifestasi berkisar'* and *'symptoms to 'profound immunosuppression'* becomes *'penekanan kekebalan yang dalam'*. One of the respondents suggested that the whole

translation of the sentence number 16 will be more readable if it is changed into *'Tahapan manifestasi dari kelainan ringan pada respon kekebalan tubuh tanpa tanda dan gejala hingga gangguan lebih banyak kekebalan tubuh yang mengancam jiwa keganasan, dan efek langsung HIV pada jaringan tubuh.'*

B. Human Translation

- **Datum 1**

Sentence Number: 18

Frequency of Readable Data: 8

SL : HIV-associated tuberculosis occurs early in the course of HIV infection, often preceding a diagnosis of AIDS.

TL : *Tuberkolosis yang berhubungan dengan HIV terjadi sejak awal proses infeksi HIV, sering kali mendahului ditegakkannya diagnosis AIDS.*

- **Datum 2**

Sentence Number: 23

Frequency of Readable Data: 6

SL: Chronic diarrhea, possibly with devastating effects (eg, profound weight loss, fluid and electrolyte imbalances, perianal skin excoriation, weakness, and inability to perform activities of daily living)

TL : *Diare kronis, kemungkinan dengan efek yang dramatis (mis., penurunan berat badan bermakna, ketidakseimbangan cairan dan elektrolit, ekskoriiasi kulit perianal, kelemahan, dan ketidaksempurnaan untuk melaksanakan aktivitas hidup sehari-hari).*

In sentence number 18, there were eight respondents categorized it as the readable sentence translated by the human translators. Although the translation could be understood by the respondents, but there is a problem that made them needed a pause to be able to

understand the whole meaning of the sentence. The translation of ‘...often preceding a diagnosis of AIDS’ into ‘...sering kali mendahului ditegakkannya diagnosis AIDS’ appears to be the problem faced by those eight respondents. The words ‘mendahului ditegakkannya’ seemed to be uncommon words for the reader in the target language. One of the respondents suggested that the sentence ‘mendahului ditegakkannya diagnosis AIDS’ will be more readable if it is written into ‘sering digunakan sebagai diagnosis awal terhadap AIDS’.

The translation of sentence number 23 was categorized as readable sentence by six respondents. There was a problem with the translation of words ‘devastating effects’ into ‘efek yang dramatis’. One of the respondents claimed that the word ‘dramatis’ did not match with the intended meaning in the target language. He added that the translation of ‘...dengan efek yang dramatis’ is better to be changed into ‘dengan gangguan yang berat seperti...’.

3. Somewhat Difficult

A. Google Translation

- Datum 1

Sentence Number: 8

Frequency of Somewhat Difficult Data: 7

SL : Four categories of infected states have been denoted:

TL : *Empat kategori negara yang terinfeksi telah dinyatakan:*

- Datum 2

Sentence Number: 9

Frequency of Highly Readable Data: 4

SL : Primary infection (acute/recent HIV infection, acute HIV syndrome: dramatic drops in CD4 T-cell counts, which are normally between 500 and 1,500 cells/mm³)

TL : Infeksi primer (infeksi HIV akut / baru-baru ini, sindrom HIV akut: penurunan dramatis jumlah CD4, yang normalnya antara 500 dan 1.500).

The result of Google translation in sentence number 8 was categorized as somewhat difficult sentence by seven respondents. This translation becomes the data with the highest score of the total number of the respondents. Most of the respondents seemed difficult in understanding the translation of ‘Four categories of infected states have been denoted:’ into ‘Empat kategori negara yang terinfeksi telah dinyatakan:’. The ambiguous meaning of ‘states’ appeared to be the central problem. The translation of word ‘state’ was mistranslated by Google Translate. The translation of ‘state’ into ‘negara’ was incorrect. This proves that the new Google Translate still can produce error as it was also revealed by Budiharjo (2018) that in some extent there were still false and inconsistency in the translation produced by Google Translate. In this case, the respondent tried to relate with the next sentences but the translation of this word into ‘negara’ seemed failed. They suggested that the correct translation of the word ‘states’ is ‘status’ and the whole sentence become ‘Empat kategori status terinfeksi diindikasikan oleh:’ as it was translated by the human translators.

The translation of words ‘(acute/recent HIV infection)’ into ‘infeksi HIV akut/baru-baru ini’ in sentence number 9 was the problem faced by the respondents when reading the sentence. As it was categorized as somewhat difficult sentence in the Google translation by four respondents. Even though they were still able to understand the sentence, but they stated that the phrase ‘baru-baru ini’ read a bit stiff and felt a bit strange when reading it with the word ‘infeksi’. The phrase ‘baru-baru ini’ does not transfer the equivalent meaning as it is intended the source language. The translation will be easier to read if it is translated into ‘infeksi HIV akut/baru’.

B. Human Translation

- Datum 1

Sentence Number: 1**Frequency of Somewhat Difficult Data: 5**

SL : Acquired Immunodeficiency Syndrome (HIV Infection)

TL : *Sindrom Immunodefisiensi Didapat (Infeksi HIV)*

- **Datum 2**

Sentence Number: 2**Frequency of Somewhat Difficult Data: 4**

SL : Acquired immunodeficiency syndrome (AIDS) is defined as the most severe form of a continuum of illnesses associated with human immunodeficiency virus (HIV) infection.

TL : *Sindrom imunodefisiensi didapat Acquired immunodeficiency syndrome (AIDS) didefinisikan sebagai bentuk paling berat dalam rangkaian penyakit yang disebabkan oleh sekelompok virus HIV (Human Immunodeficiency Virus).*

Five respondents faced difficulties in understanding the translation of sentence number 1 which was produced by the human translators. The translation of the word 'Acquired' in 'Acquired Immunodeficiency Syndrome (HIV Infection)' into 'Sindrom Immunodefisiensi Didapat (Infeksi HIV)' appears to be the problem faced by most of the respondents. They claimed that the word 'acquired' seemed to be translated literally by the human translators. One of the respondents suggested that acquired immunodeficiency syndrome which commonly called AIDS, cannot be categorized the same as HIV (Human Immunodeficiency Virus). Because Acquired Immunodeficiency Syndrome (AIDS) is a disease syndrome caused by infection of Human Immunodeficiency Virus (HIV) with other comorbidities.

The translation of sentence number 2 was categorized as somewhat difficult datum by four respondents. The respondents got confused with the double translation done by the human

translators. It can be seen that the phrase 'Acquired immunodeficiency syndrome (AIDS)' was translated into 'Sindrom imunodefisiensi didapat', but this phrase 'Acquired immunodeficiency syndrome (AIDS)' was re-written afterward. They stated that it seemed there were 2 phrases written in the same sentence with the same meaning. Moreover, the translation output 'sekelompok virus' becomes another problem claimed by one of the respondents. In the source language, it is only written as 'human immunodeficiency virus (HIV) infection', but was translated by adding the word 'sekelompok'. She said that it was enough if it is only translated into 'infeksi virus HIV'.

4. Very Difficult**A. Google Translation**

- **Datum 1**

Sentence Number: 2**Frequency of Very Difficult Data: 1**

SL : Acquired immunodeficiency syndrome (AIDS) is defined as the most severe form of a continuum of illnesses associated with human immunodeficiency virus (HIV) infection.

TL : *Acquired immunodeficiency syndrome (AIDS) didefinisikan sebagai bentuk paling parah dari rangkaian penyakit yang terkait dengan infeksi human immunodeficiency virus (HIV).*

- **Datum 2**

Sentence Number: 8**Frequency of Very Difficult Data: 2**

SL : Four categories of infected states have been denoted:

TL : *Empat kategori negara yang terinfeksi telah dinyatakan:*

The translation of sentence number 2 produced by Google Translate was also categorized as very difficult sentence in Google

translation by one respondent. The phrase which was translated from *'the most severe form'* into *'bentuk paling parah'* make the respondent seemed hard to get the meaning of it. The respondent stated that the word *'parah'* can lead into a different interpretation of meaning. Because the word *'parah'* does not necessarily mean that there is at a stage of severe disease, because the severity of HIV depends on the stage of other comorbidities.

There were two respondents who found it difficult to understand the translation of the sentence number 8 which was produced by Google Translate. They completely were unable to understand the meaning of the translation, because of the ambiguous word. That is the word *'states'* which was translated into *'negara'*. He stated that if this sentence is tried to be connected with the next sentence, the translation of this sentence does not show any connection with the next sentence. Whereas actually, this sentence is related to the next few sentences. The translation of this sentence which was produced by Google Translate did not match with the intended meaning in the target language. The respondent suggested that the word *'states'* should be translated into *'status'*.

B. Human Translation

• Datum 1

Sentence Number: 7

Frequency of Somewhat Difficult Data: 1

SL : The Centers for Disease Control and Prevention (CDC) standard case definition of AIDS categorizes HIV infection and AIDS in adults and adolescents on the basis of clinical conditions associated with HIV infection and CD4 T-cell counts.

TL : Definisi kasus standar dari Centers for Disease Control and Prevention (CDC)

4. CONCLUSION

The results of the quality of translation in terms of readability on the translation of 'medical-surgical nursing' book between Google Translate and human translators from English

tentang AIDS mengategorikan infeksi HIV dan AIDS pada individu dewasa dan remaja berdasarkan kondisi klinis yang disebabkan oleh infeksi HIV dan jumlah sel T CD4+

• Datum 2

Sentence Number: 24

Frequency of Somewhat Difficult Data: 2

SL : Wasting Syndrome (Cachexia)

TL : Sindrom Pelisutan (Kakeksia)

In sentence number 7, there was only one respondent who found difficulty in understanding the translation produced by the human translators. The respondent stated that he concerned more about the phrase 'HIV dan AIDS'. The sentence was written as "... categorizes HIV infection and AIDS" and translated into "mengategorikan infeksi HIV dan AIDS". He argued that although he could get the meaning of the sentence, it is better to translate it becomes *'kategori HIV-AIDS'*. The symbol (-) in the word 'HIV-AIDS' means that there is a continuity. Therefore, the respondent suggested that the translation will be more understandable if it is written as *'Definisi standar kasus berdasarkan CDC dikategorikan menjadi infeksi HIV-AIDS pada orang dewasa dan remaja yang berdasarkan tanda dan gejala terkait kondisi klinis dari infeksi HIV dan jumlah Sel-T CD4.'*

The sentence number 24 becomes the highest very difficult datum of human translation rated by two respondents. One respondent did not understand the meaning of the word *'(Kakeksia)'* and the other one found difficulty in understanding the word *'Palisutan'*. One of the respondents claimed that the word *'Cachexia'* in the source language should be translated into *'Kaheksia'* rather than *'Kakeksia'* into Indonesian, showed that the difference in the amount of data categorized as 'highly readable data' translated by Google and human is 14 data (3.1%). while the difference in 'readable data' is as much as 7 data (1.6%). For

'somewhat difficult data', the total difference data which were translated between Google and human is 15 data (4.6%). Then, the difference results in the 'very difficult data' produced between Google and human is as much as 6 data (1.3%).

Based on the data above, it can be concluded that there are still differences in the results of translation outputs produced by Google Translate and human translators. To some extent, the result of Google's translation was categorized as a more readable translation rather than human translation. This proves that the result of Google's translation is almost as natural as the human translation and makes it easier to understand. However, the translation output produced by Google Translate still requires an editing process by human translator to produce more natural and contextual translation.

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