






The English Google translation of Indonesian lecturer's academic writing: A preliminary study

Menik Winiharti ^{a 1} , Syihabuddin ^b , Dadang Sudana ^c 

^{a,b,c} *Indonesia University of Education, Bandung, Indonesia*
^a *Bina Nusantara University, Jakarta, Indonesia*

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Abstract

The work of translation seems to be much easier with the assistance of web-based Machine Translation such as Google Translate. Does it work well? This study aims at finding how Google translates academic texts from Indonesian into English. It is also to find the extent to which Google Translate accurately and naturally transfers such texts. The data are Indonesian academic texts written by undergraduate lecturers from three different majors: Management, Japanese Literature, and Mathematics. The discussion section in each article is translated into English using Google Translate web. The data is analyzed in terms of two perspectives: forms and meaning. With regard to form or syntactic analysis, the data are investigated based on the structure of the Source Language and the Target Language. It is also to observe whether such forms are natural to generate meaning in the Target Language. With regard to the meaning or semantic analysis, the data are evaluated based on the original message, whether or not the message conveyed in the Target Language is accurate. The findings indicate that most of the translations of Google Translate are built in similar forms to those of the Source Language. In terms of meaning, the messages conveyed seem to be fairly accurate even though inaccuracy is still found.

Keywords: Translation; Google Translate; Academic texts; Syntax; Semantics

1. Introduction

The occurrence of machine translation is very much likely to be pioneered in the late-1940s and begun in the early-1950s when “tentative ideas for using the newly invented computers for translating natural languages” were discussed. (Hutchins 2006) Years later, begun in the mid-1990, machine translation has developed quite rapidly, fueled by the internet which provides internet-based online translation. Nowadays, one of the most popular web-based machine translations is Google Translate. According to Groves & Mundt (2015), Google Translate (for further use, it is abbreviated as GT) is the most visible web-based machine translation available today, free of charge and capable of translating many languages. Similarly, Lotz & Rensburg (2014) stated that GT is a free online application, offered by Google Inc., which allows users to instantly translate words, sentences, documents, and even websites. James Kuczumarski, a product manager from GT, stated that this machine has become an

¹ Corresponding author.

E-mail address: menikw@upi.edu

important tool for communicating in cross-languages. (Kuczmarski 2018) However, there has been a debate toward the success of GT in translating many languages in the world – 103 languages according to Kuczmarski (2018). On the one hand, GT undeniably has become an important means for people to communicate across languages, but that does not mean that GT is always perfect in translating all languages. Khosravizadeh & Pashmforoosh (2011) clearly stated that although GT is an asset that is always ready to help language users around the world, it also has a number of weaknesses. According to them, humans are still needed to involve in the editing process to generate a final product of translation.

1.1. Literature review

Several studies related to the quality of GT translations have been conducted. The most common problem resulted from GT is mistranslation (Lotz & Rensburg 2014). Furthermore, the product of GT still shows errors at various levels, varying from word level (Vidhayasai, Keyuravong, & Bunsom 2015), sentence-level (Chen, Acosta, & Barry 2016), to the level of discourse (Groves & Mundt 2015; Vidhayasai et al. 2015). Problems are also discovered at the semantic level (Allue 2017; Khosravizadeh & Pashmforoosh 2011); syntax (Allue, 2017; Vidhayasai et al., 2015), and grammar (Khosravizadeh & Pashmforoosh, 2011; Li et al., 2014). GT also shows different results for different genres of texts (Allue, 2017; Calude, 2003; Rensburg et al., 2012; Voigt & Jurafsky, 2012). In this case, a translation of one type of text can show better results than a translation of another type of text. Yet, GT results are still acceptable concerning the general understanding of information (Li et al., 2014).

One issue that needs attention is that a number of people are quite dependent on GT for it is easily accessible and free of charge (only requires an internet network). Vidhayasai et al. (2015) said that the dependency on translation tools such as GT should become a concern, in that it is to know whether the machine is efficient and practical. What has happened in the community so far is that Google Translate has not yet provided a translation result that satisfies its users, especially with regard to its naturalness, even though the results can be quite useful because it provides instant translation. In this case, they said that GT has limitations because each language has its own character and linguistic functions. Their research revealed that the use of GT to translate the 'terms and conditions on an official website of an airline in Thailand raises several errors at the lexical, syntactic, and discursive levels. Such imperfect translation results can cause major problems with regard to passenger safety. According to them, however, GT can be used at the word level but requires a careful assessment from its users in addition to requiring many revisions. (Vidhayasai et al., 2015)

Furthermore, concerning how GT translates different text genres, Allue (2017) investigated the accuracy of GT on tourism text and football match reports from two language directions (SL to TL and vice versa). According to him, GT produced a slightly better translation in the tourism texts than that in the football match report. In the education field, GT also has a role although limitations are still found. In other cases, Groves & Mundt (2015) explored the function of GT in student essay writing. According to them, GT is merely able to translate at the lexicogrammatical level and cannot help students align their writing to the norms and expectations of the wider discourse. Moreover, when translating newly coined words, it becomes more difficult for machine translations – including GT – to generate meaning in the Target Language. Awadh & Shafiull (2020) have compared the performance of human and machine translators to translate neologism. Their results show that translation students found it hard to translate neologisms accurately and a machine translation resulted in poorer translations.

From the point of linguistics view, Erton & Tanbi (2016) have found that students of translations have a better understanding and achievement in translating and interpreting if linguistics and discourse courses are embedded in the courses. Thus, linguistics and translations cannot be separated as linguistics plays a vital role in the field of translation.

In the meantime, GT has been also widely used in Indonesia, including by academicians who are required to publish scientific articles using the English language. Unfortunately, not all undergraduate lecturers in Indonesia are well equipped with English writing. In other words, English can be their obstruction in writing their research reports. (Arsyad et al., 2019; Hartono et al., 2019). With regard to the use of machine translation for this case, Michaela Panter, an academic editor at aje.com (Panter, n.d.), states "with the increasing number of research articles by non-native English speakers and a lack of spare time in researchers' schedules, automated translation may seem like an appealing option." However, as she further points out, there are four kinds of the most serious errors produced by GT, namely sentence fragments, long sentences, illogical ordering phrases, and literal instead of context-dependent translation. In addition, poor sentence construction, syntax, and terminology used can reduce the readability of a text, which can lead to unclear or even lost meaning. (Panter, n.d.)

Due to those findings, the present study is conducted to find how GT translates the Indonesian Lecturer's Academic Writing from Indonesian into English. It is also to find the extent to which GT accurately and naturally transfers the Indonesian Lecturer's Academic Writing from Indonesian into English. As far as I am concerned, the study of translations from Indonesian into English is not yet much conducted, specifically in academic texts using web-based machine translation.

1.2. Theoretical Framework

Kenny (2011) states that "Empirical translation studies can be divided into two main categories: those that focus on the translation process, and in particular on the translator's cognitive activity; and those that study translation products – target texts which can be related, amongst other things, to their host cultures, their users, and their respective source texts." Since the present study is to investigate the quality of GT, then it focuses on the product, i.e. the translation resulted from a web-based machine translation – Google Translate.

Basically, translation is transferring the meaning of a source language (SL) into the target language (TL or Receptor Language: RL). Thus, a work of translation must convey a message and not a form (Larson 1998). Correspondingly, Baker (1993) revealed about equivalence by asserting that the translation must be equivalent to the original language, in semantic (meaning) or formal (form) category.

Furthermore, concerning types of translations, Larson (1998, 17) classifies them into two main kinds of translations: literal and idiomatic. The first one is the translation which follows the forms of SL, thus it is form-based. The latter tries to communicate the SL's meaning into the natural form of the TL, thus it is meaning-based.

With regard to strategies that a translator may apply at the text level, Baker (2018, 179-183) proposed voice change, change of verb, nominalization, and extraposition. These strategies are suggested to resolve the debate between syntactic and communicative functions in translation and language learning. Meanwhile, in terms of the evaluation of translation, Larson (1998, 529-530) argued that when a translation is done, it should be evaluated based on three factors: accuracy, clearness, and naturalness. A translation is said to be accurate when it conveys the original message of the source language. It is said to be clear when the audience of the receptor language understands the result clearly. Finally, a translation is said to be natural when it uses the natural form, in terms of grammar and style, of the receptor language which is easy to read.

1.3. Statement of the Problem

The gap that the present study intends to fulfill is to enrich and confirm the previous ones with regard to the translation using GT from Indonesian into English and specifically focuses on academic texts. Thus, the questions that arise are:

1. How does Google Translate render the Indonesian academic text into English?
2. To what extent does GT accurately transfer the academic texts from Indonesian into English?
3. To what extent does GT naturally transfer the academic texts from Indonesian into English?

2. Method

The study applies the descriptive – qualitative method. The source of data for this study is three Indonesian academic articles written by three undergraduate lecturers from three disciplines: Management, Japanese literature, and Mathematics. Then these articles are translated into English by means of Google Translate web (<https://translate.google.com>). The data collected is limited to the discussion section, since this part tends to be the writer's idea. In addition, only the textual information is translated while all other details such as tables, pictures, and formulas are discarded. The data analyzed for this paper is two sentences per article, thus there are six sentences to be analyzed. These sentences are written in the discussion section and chosen randomly. After the English translation is generated, the analysis is done by comparing the SL (Indonesian) and TL (English) with regard to syntactic form and semantic meaning. In terms of form analysis, it is comparing the form in the SL and that in the TL to find whether it is naturally built in the TL, while in terms of meaning, the messages in the SL and TL are compared to find whether they are accurately transferred.

Larson's theory of translation assessment and evaluation (1998) is used as the reference for accuracy and naturalness. The main theoretical framework used for analyzing the Indonesian sentence structure is Sneddon, Adelaar, Djenar, & Ewing (2010) and Alwi, Lapoliwa, Dardjowidjojo, & Moeliono (2003), while analyzing the English sentence structure uses Leech (2006).

3. Results and Discussion

There are all six sentences to be discussed. The following is the summary of the results regarding three aspects: the translation types and strategy, the form, and the meaning.

Table 1. Result Summary

Data	Type of sentence (SL-TL)	Kind/strategy of translation	Form	Meaning	Notes
1A	Simple - simple	Literal	Exactly the same but natural	Fairly accurate; inaccurate in one noun	
1B	Complex - Complex	Literal	Exactly the same but natural	Fairly accurate; inaccurate in one NP	
2A	Complex - complex	Literal	Exactly the same, rather unnatural	Rather inaccurate, especially in one NP	Incapable of identifying topics of discussion
2B	Compound - compound	Literal	Exactly the same, rather unnatural	Inaccurate	Most likely due to the not well-formed SL, thus it needs to be

					paraphrased
3A	Simple - simple	Literal	Not exactly the same and natural	Accurate	Replacement on one VP and addition
3B	Complex - complex	Literal	Exactly the same but natural	Fairly accurate; inaccurate in one verb	Changing the form of reduplication

The data is analyzed per sentence as it is considered one unit of thought. Each sentence is firstly categorized into sentence clause category which is based on the composition of clauses: simple, compound, complex, and compound-complex.

Afterward, the discussion is divided into two kinds of analysis; the first one is a form or syntactic analysis, and the second one is semantic or meaning analysis.

To facilitate the discussion, several abbreviations are used. They are:

GT: Google Translate

SL/ST: Source Language/Source Text

TL/TT : Target Language/Target Text

Syntactic Category:

- N - NP : Noun - Noun Phrase
- V - VP : Verb - Verb Phrase
- A - AP : Adjective - Adjective Phrase
- Adv - AdvP : Adverb - Adverb Phrase
- P - PP : Preposition - Prepositional Phrase

Syntactic Function:

- S : Subject
- P : Predicate
- O : Object
- Adv : Adverbial

Data 1

Data 1 which contains two sentences (1A and 1B) is of a lecturer majoring in management.

Data 1A

Form and syntactic analysis

Indonesian : Dalam satu dekade terakhir, pertumbuhan pendapatan dan tren urbanisasi telah mengubah preferensi konsumsi makanan penduduk Indonesia.

English : In the past decade, income growth and urbanization trends have changed the food consumption preferences of the Indonesian population.

The type of sentence structure in the Indonesian text is simple since it has one subject (*pertumbuhan pendapatan dan tren urbanisasi*) and one verb (*telah mengubah*). It is translated into a simple sentence with 'income growth and urbanization trends' as subject and 'have changed' as a verb. For this data, GT does not change the type of sentence.

Furthermore, the following table shows the syntactic category and function of Data 1A and its translation.

Table 2. Syntactic category and function of Data 1A

Syntactic Category	Syntactic Function	Indonesian	English
PP	Adverbial	Dalam satu dekade terakhir	In the past decade
NP	Subject	pertumbuhan pendapatan dan tren urbanisasi	income growth and urbanization trends
VP	Predicator	telah mengubah	have changed
NP	Direct Object	preferensi konsumsi makanan penduduk Indonesia	the food consumption preferences of the Indonesian population

In terms of syntactic category, the translation applies the exact category of the SL: PP-NP-VP-NP. The syntactic function is also arranged in a similar way: Adverbial - Subject –Predicator – Direct Object. It can be said that GT applies the same structure as that in the SL. Nevertheless, GT can adjust the Indonesian NP structure into English. In Indonesian, the structure of an NP commonly puts the head at the beginning which is followed by its modifier. It can be seen in the phrase *pertumbuhan pendapatan*, with *pertumbuhan* as the head and *pendapatan* as its modifier. In English, the head noun is generally placed at the end with its modifier being put before the head. The phrase is translated into 'income growth' with 'growth' as the head and 'income' as its modifier.

Furthermore, the Indonesian VP *telah mengubah* is translated into English VP 'have changed'. Thus, GT in this case applies exactly the same structure.

In addition, the NP which functions as an Object, *preferensi konsumsi makanan penduduk Indonesia*, is translated into an NP. However, GT has adjusted *penduduk Indonesia* into an English structure using the preposition 'of' which shows possessive modifier, thus it is placed after the head 'preferences'.

Semantic Analysis

In terms of meaning, GT seems to be able to convey the original message of the SL although there are some adjustments made. In the adverbial *Dalam satu dekade terakhir*, *satu* is not translated into 'one' but a definite article 'the'. This translation is semantically acceptable because in English 'the' is used to specify the noun it refers to. Besides, *tren* in Indonesian is translated using plural form 'trends', which in English is possible to use to show the general meaning of a noun. However, in the NP *preferensi konsumsi makanan penduduk Indonesia*, *penduduk* is translated into 'population', which in this context does not seem suitable. According to Oxford Dictionary 'population' is defined as 'all the people who live in a particular area, city or country; the total number of people who live there.

(<https://www.oxfordlearnersdictionaries.com/definition/english/population?q=population>)

Based on this definition, population refers more to 'number' or 'quantity', while the message of the original text is more about 'people'. Therefore, the more acceptable translation of *penduduk Indonesia* is 'Indonesian people'.

Overall, in terms of form, the SL in data 1A can be said as naturally transferred even though GT seems to do the literal translation, for the sequence of words and phrases is the same, except in the NP the food consumption preferences of the Indonesian population. In terms of meaning, there is only one word that is mistranslated (*penduduk* – population).

Data 1B

Form and syntactic analysis

Indonesian : Saat ini konsumsi daging, produk berbasis susu dan makanan siap saji yang termasuk roti semakin lazim di Indonesia.

English : At present consumption of meat, dairy-based products, and prepared foods including bread is increasingly prevalent in Indonesia.

The type of sentence 1B is complex since it contains two types of clauses: independent clause *konsumsi daging, produk berbasis susu dan makanan siap saji semakin lazim di Indonesia* and dependent clause *yang termasuk roti* which modifies NP *makanan siap saji*. The translation also belongs to the complex sentence as it has an independent clause 'consumption of meat, dairy-based products, and prepared foods is increasingly prevalent in Indonesia' and a dependent clause 'including bread' which explains the NP 'prepared foods'.

The following table shows the syntactic category and function of Data 1B and its translation.

Table 3. Syntactic category and function of Data 1B

Syntactic Category	Syntactic Function	Indonesian	English
PP	Adverbial	Saat ini	At present
NP	Subject	konsumsi daging, produk berbasis susu dan makanan siap saji yang termasuk roti	consumption of meat, dairy-based products, and prepared foods including bread
AP	Predicator	semakin lazim	is increasingly prevalent
PP	Adverbial	di Indonesia	in Indonesia

In terms of syntactic category, the translation applies the exact category of the SL: PP-NP-AP-PP. Likewise, the arrangement of the syntactic function of the TL is not different from that of the SL: Adverbial – Subject – Predicator – Adverbial. Even the Indonesian NP *konsumsi daging, produk berbasis susu dan makanan siap saji yang termasuk roti* is translated into a structure with the same arrangement, using preposition 'of' that shows possessive modifier: 'consumption of meat, dairy-based products and prepared foods including bread'. In this phrase, however, there is a relative clause *yang termasuk roti* which modifies NP *makanan siap saji*. GT applies the same structure with 'including bread' as the relative clause explaining NP 'prepared foods'. The only difference is that GT does not include 'which' as the common translation of *yang*, thus the translated version applies a reduced clause.

All in all, it can be said that in this complex sentence, GT applies the same arrangement as that in the SL.

Semantic Analysis

In terms of meaning, the overall message seems to have been conveyed accurately. However, there is an Indonesian NP *makanan siap saji* which GT translates into 'prepared foods'. To some extent, this

translation is not accurate since *makanan siap saji* is commonly translated into ‘fast food’. As a matter of fact, GT translates this phrase into ‘fast food’ when it is put on the web apart from the sentence and paragraph. In addition, when ‘prepared foods’ is translated back into Indonesian, it becomes *makanan yang disiapkan*, whose meaning is fairly different from *makanan siap saji*. Therefore, from the semantic point of view, the message of the SL is not quite accurately transferred.

Overall, it can be said that in terms of form, the SL is naturally transferred even though GT uses the same arrangement of the type of phrases. Only in the relative clause GT has reduced the clause. In terms of meaning, GT does not totally transfer the message accurately due to the translation of *makanan siap saji* into ‘prepared foods’.

Data 2

There are two sentences in this data (Data 2A and 2B). They are of a lecturer majoring in Japanese Literature.

Data 2A

Form and syntactic analysis

Indonesian : Berdasarkan persepsi kesantunan tingkat pertama dengan konstruksi imperatif, menduduki tingkat pertama paling santun adalah permintaan berpagar dan permohonan secara eksplisit dengan jawaban responden sebanyak 96%.

English : Based on the perception of politeness of the first level with imperative construction, occupying the first level of courtesy is a fenced request and an explicit request with a respondent's answer of 96%.

The sentence of 2A belongs to Complex type because it consists of an independent clause, *menduduki tingkat pertama paling santun adalah permintaan berpagar dan permohonan secara eksplisit* and two dependent clauses: (1) *Berdasarkan persepsi kesantunan tingkat pertama dengan konstruksi imperatif* which functions as adverbial of the sentence, and (2) *dengan jawaban reponden sebanyak 96%* which functions as a relative clause. The English translation also has an independent clause ‘occupying the first level of courtesy is a fenced request and an explicit request’. However, there is only one dependent clause in the translation: ‘Based on the perception of politeness of the first level with imperative construction’, while ‘with a response answer of 96%’ is not a clause, yet a PP describing the noun ‘a fenced request and an explicit request’.

The following table shows the syntactic category and function of Data 2A and its translation.

Table 4. Syntactic category and function of Data 2A

Syntactic Category	Syntactic Function	Indonesian	English
Adv. Clause	Adverbial	Berdasarkan persepsi kesantunan tingkat pertama dengan konstruksi imperatif	Based on the perception of politeness of the first level with imperative construction
NP	Subject	menduduki tingkat pertama paling santun	occupying the first level of courtesy
Copula	Predicator	adalah	is
NP	Subject Complement	permintaan berpagar dan permohonan secara eksplisit	a fenced request and an explicit request

PP	Noun Complement	dengan jawaban responden sebanyak 96%.	with a respondent's answer of 96%.
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In terms of syntactic category, GT has arranged the sentence into Adv.-NP-Copula-NP-PP. Basically, this arrangement is the same as that in the SL. Interestingly, the subject in the SL is occupied by a verb *menduduki* which is translated into gerund 'occupying'. In this case, it is obvious that GT literally translates the verb which functions as NP into the same category. In another case, *sebanyak 96%* which occurs in the PP functioning as Noun Complement, is categorized as a *classifier* in Indonesian (Sneddon et al., 2010, p.145), yet it is translated as 'of 96%' which becomes a part of the NP 'a respondent's answer'.

Semantic Analysis

The problem of the meaning translated by GT is observed on the SL's NP *tingkat Pertama*, both in the adverbial and in the subject. GT has translated this phrase into 'the first level', which is not quite accurate since the sentence is written in a context discussing the result of a survey that has generated a number showing a certain position or rank in *politeness strategies*. It can be said that GT is not yet capable to identify the context being discussed in the text. In addition, *paling santun* which is a part of the NP functioning as Subject is translated into 'courtesy'. Even though 'courtesy' is one of the synonyms of 'politeness', it does not match the context for politeness is a specific term in sociolinguistic study. Moreover, it seems that this translation is due to the SL structure which is not well-formed. As a result, GT translates as it is, which shows that GT follows a literal translation procedure. As the topics discussed in the SL deals with *politeness*, what is meant by the NP is most likely of *menduduki tingkat pertama kesantunan* or *menduduki tingkat paling santun*. Therefore, the translation of the phrase should be: 'occupying the first rank of politeness' or 'occupying the rank/position of being the most polite'.

In another phrase, NP functioning as SC, *permintaan berpagar* is translated into 'a fenced request'. Again, GT has shown that it follows the literal translation procedure – *Pagar* in Indonesian means 'fence' in English. However, since the context of the text deals with politeness theory, 'a fenced request' becomes inaccurate. In politeness theory, there is a term 'hedges' which is one of some politeness strategies. It refers to mitigating devices to soften the force of a statement, or as boosters when the function is emphatic. (Holmes, 2013) Thus, *permintaan berpagar* should be translated into 'hedged request' or simply 'indirect request'.

Data 2B

Form and syntactic analysis

- Indonesian : Selanjutnya menggunakan isyarat kuat 70% responden menjawab, menggunakan modus imperatif 50% responden, dan menggunakan pernyataan keinginan implisit sebanyak 43% responden.
- English : Furthermore, using a strong signal 70% of respondents answered, using the imperative mode of 50% of respondents, and using an implicit desire statement of 43% of respondents.

Sentence 2B can be categorized into compound sentence because it consists of three independent clauses: (1) *menggunakan isyarat kuat 70% responden menjawab*, (2) *menggunakan modus imperatif 50% responden*, and (3) *menggunakan pernyataan keinginan implisit sebanyak 43 % responden*. These sentences are connected using the conjunction *dan*. The translation also contains three independent clauses: (1a) 'using a strong signal 70% of respondents answered', (2a) 'using the

imperative mode 50% of respondents', and (3a) 'using an implicit desire statement of 43% of respondents'. These are connected by the conjunction 'and'. Obviously, GT applies the same type of sentences.

The following table shows the syntactic category and function of Data 2B and its translation.

Table 5. Syntactic category and function of Data 2B

Syntactic Category	Syntactic Function	Indonesian	English
Conjunction	Connector	Selanjutnya	Furthermore
NP	Subject1	menggunakan isyarat kuat	using a strong signal
NP	Predicate1	70% responden menjawab	70% of respondents answered
NP	Subject2	menggunakan modus imperatif	using the imperative mode
NP	Predicate2	50% responden	50% of respondents
Conjunction	Connector	dan	and
NP	Subject3	menggunakan pernyataan keinginan implisit	using an implicit desire statement
Classifier/PP	Predicator3	sebanyak 43% responden	of 43% of respondents

From the table above, it is indicated that GT has translated the SL using the same form. The category and function of each phrase in the SL and in the TL are almost the same. *Menggunakan*, for example, is actually a verb that functions similarly as a Noun (Subject) and it is translated literally into 'using' whose form is a gerund – a verb functioning as a noun. However, in the last phrase *sebanyak* which is categorized as a classifier by Sneddon et al. (2010, p.145) is translated into 'of' which belongs to PP.

Semantic Analysis

The problem is the meaning conveyed in the TL can be seen in the first NP: '70% of respondents answered'. GT seems to apply the literal translation since it translates the Indonesian verb *menjawab* into 'answered' which in English is understood as a verb also. On the other hand, this may be due to the SL sentence which is not quite well-formed. Based on Indonesian grammar (Alwi et al., 2003) the first independent clause can be paraphrased into: *Ada 70% responden yang menjawab menggunakan isyarat kuat*. GT has translated it into 'There are 70% of respondents who answered using strong cues'. (translated on 20 November 2019) This version of translation seems to be more accurate compared to the previous one. However, the difference lies in the difference in the SL's structure.

Data 3

Data 3 consists of two sentences (3A and 3B) collected from a lecturer majoring in mathematics.

Data 3A

Form and syntactic analysis

Indonesian : Pada subbab ini akan diberikan beberapa contoh kasus untuk disimulasikan.

English : In this section, there will be some case examples to be simulated.

The sentence in 3A belongs to a simple sentence as it has one independent clause *akan diberikan beberapa contoh kasus*. The translation also has one independent clause ‘there will be some case examples’. Thus, in this sentence GT exactly follows the type of the SL sentence.

The following table shows the syntactic category and function of data 3A and its translation.

Table 6. Syntactic category and function of Data 3A

Syntactic Category	Syntactic Function	Indonesian	English
PP	Adverbial	Pada subbab ini	In this section
Existential	Dummy S	-	there
VP	Predicator	akan diberikan	will be
NP	Inverted/Extraposd Subject	beberapa contoh kasus	some case examples
VP	Noun complement	untuk disimulasikan	to be simulated

For this translation, GT uses almost the same arrangement. The only difference is on the occurrence of 'there' which in English is called *existential there* which functions as *a dummy subject*. (Leech, 2006, p. 39-40) The real subject is *beberapa contoh kasus* translated as ‘some case examples’. In the SL *beberapa, contoh kasus* is placed after the verb *akan diberikan*, hence there is an inversion between Predicator and Sentence Subject. In the TL, ‘some case examples’ is placed after the verb ‘will be’, which follows the same arrangement.

Semantic analysis

The message of the SL in this sentence seems to have been accurately translated by GT. There is only a change in the translation which occurs in the verb 'will be' as the translation of *akan diberikan*. GT here has omitted the verb *diberikan* and replaces it with the linking verb 'be' and also added existential 'there' in front of the verb. Since the meaning in the TL is acceptable and accurate, this kind of replacement is one procedure that GT has applied.

Data 3B

Form and syntactic analysis

Indonesian : Simulasi ini dilakukan untuk mengetahui kecenderungan perubahan arus lalu lintas jika data diubah - ubah.

English : This simulation is carried out to determine the trend of changes in traffic if the data is changed.

The sentence is categorized into complex one since it has one independent clause *Simulasi ini dilakukan untuk mengetahui kecenderungan perubahan arus lalu lintas* and one dependent clause *jika data diubah – ubah*. The translation also follows the same structure, with ‘This simulation is carried out to determine the trend of changes in traffic’ as the independent clause, and ‘if the data is changed’ as the dependent one.

The following table shows the syntactic category and function of data 3B and its translation.

Table 7. Syntactic category and function of Data 3B

Syntactic Category	Syntactic Function	Indonesian	English
NP	Subject	Simulasi ini	This simulation
VP passive	predicator	dilakukan	is carried out
VP	Purpose clause	untuk mengetahui kecenderungan perubahan arus lalu lintas	to determine the trend of changes in traffic
Dependent clause	Conditional clause	jika data diubah - ubah	if the data is changed.

The structure in the TL seems to follow that in the SL: NP – VP – VP (purpose) – Clause. Once again, GT applies the literal translation since it uses the same form.

Semantic Analysis

The message in the TL seems to be acceptable and understood as that in the SL although the form applied by GT is exactly the same. Yet, there is one message which will be differently understood. *diubah-Ubah* in Indonesian may mean ‘repeatedly done’ (Alwi et al., 2003; Sneddon et al., 2010), so the message of the SL means that the data can be changed more than once. The author of the text may apply some different data to the formula simulation. However, GT has translated it into ‘changed’, which may indicate that the changes only happen once. Thus, the translation should become: ‘if the data is changed repeatedly’, or more freely: ‘if different data is inputted into the formula’. It can be said that GT is not sensitive toward the different meanings of Indonesian *diubah* and *diubah-ubah*.

4. Conclusions

The findings generally indicate that Google Translate applies literal translation. It can be seen from the overall translations of sentences which literally adapt the forms of the Source Language. Only a few phrases use different forms. Even though there is a strategy of replacement and addition, GT has translated mostly literally. In terms of meaning, the overall messages seem to be fairly acceptable because there are a few words that are translated inaccurately. From these findings, it can be said that GT still needs improvement, especially concerning forms and context-based meaning because GT is not yet capable of identifying the context or topics being discussed in the text. One thing to be considered carefully is that the structure in the SL needs to be reviewed first before the source text is inputted in GT because this machine is still translated literally. Thus, the text in the SL must be well-formed to achieve a better translation.

To some extent the findings of this study support and confirm the findings of (1) Khosravizadeh & Pashmforoosh (2011) in that the translation should consider the TL’s precise structure of syntactic units before dealing with semantics problems. It should also be able to convey the context-embedded lexical expression; (2) Vidhayasai et al. (2015) with regard to the inaccuracy that occurs in lexical level and unnaturalness in syntactic level; (3) Groves & Mundt (2015) implying that GT is not yet able to translate by aligning the norms at discourse level; (4) Rensburg et al. (2012) in that the result of machine translation requires post-editing by human or professional translators and inputs from clients. In addition, the findings also confirm that of Li et al. (2014) in that raw results of GT can be used to convey general information only if the accuracy of grammatical aspects is less taken into account.

5. Pedagogical Implication

Nowadays, it seems that Google Translate or other Machine Translation has become a part of the translation process done by beginners, even experts in the translation field often use the machine. The present study deals with the Indonesian lecturer's academic writing. The result can be a valuable input to academic institutions or language trainers who deal with lecturer language training, especially in writing academic English. GT can be used as a tool to translate Indonesian texts into English. However, the lecturers, as well as the trainers, are not suggested to fully rely on GT. The translation generated by GT needs a process of reviewing and editing which can be done by professional translators or language experts.

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AUTHOR BIODATA

Menik Winiharti is a lecturer at English Department, Bina Nusantara University, Jakarta. She is now pursuing her doctoral degree in linguistics at Indonesia University of Education, Bandung. Her research interests are linguistics in general and English language skills, as well as English language learning.

Syihabuddin is a professor of translation from the Indonesian Department, Indonesia University of Education, Bandung. His prominent work is translating Tafsir Ibnu Katsir from Arabic into Indonesian.

Dadang Sudana is a senior lecturer at the Linguistic Department, Indonesia University of Education, Bandung. His research interests are linguistics in general and Language acquisition.