

THE IMPACT OF MACHINE'S AND STUDENTS' TRANSLATION ON ACCURACY OF *RODA KEHIDUPAN*

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Received: 17th May 2023/**Revised:** 01st September 2023/**Accepted:** 08th September 2023

How to Cite: Sipayung, K. T. (2023). The impact of machine's and students' translation on accuracy of *roda kehidupan*. *Lingua Cultura*, 17(2), 153-159. <https://doi.org/10.21512/lc.v17i2.9971>

ABSTRACT

The research aimed to describe the impact of machine translation on translation accuracy. Machine translation was widely used to translate the original language to the target. Accuracy was a crucial thing that the translator needed to restructure in the target language. The research applied a qualitative method with sampling based on its criteria. In addition, the research had two types of data: objective and effective. There were two instruments used to collect data; the first was instruction for translating a short film entitled "Roda Kehidupan". The students were asked to translate a short film with the help of a machine, without machine translation, and the final version of the translation. The second instrument was the translation accuracy indicator, formulated in indicator form. The translation accuracy indicator (questionnaire) was distributed to inter-raters. The research shows that the accuracy of translation without machine translation (first version) is inaccurate (1,5); however, the accuracy of translation with machine translation (second version) is categorized as less accurate (2,4), and the translation accuracy on the final version of the translation is 2,3 (less accurate). The researcher suggests that the translator and lecturer need to use machine translation in translating, but a human touch (post-editing of translation) is really important to achieve high translation quality.

Keywords: machine translation, student translation, translation accuracy

INTRODUCTION

Translation is a complex work to do by translators. Translators need to analyze the form and meaning of the original language first. Next, the translator needs to transfer it to the target. Before publishing the target, restructuring is the last step, so the norm and meaning are well constructed in the target. Based on these steps, it can be concluded that a translation project is not easy to do. However, the complex work of these steps is replaced by the translation machine.

The development of machine translation is changing from time to time. It already existed in 1950, based on Prates, Avelar, and Lamb (2020). It is developed by a new approach to deep linguistics analysis (Stapleton & Kin, 2019). It is to indicate that translation is close to linguistic studies. The machine

translation system greatly improves the translation of literary works (Thai et al., 2022). The product of machine translation needs to be evaluated by a rater for better translation accuracy. In the globalization era, the complexity of doing translation is solved by the presence of machine translation (Ulfyatuzzuhriyyah & Hilman, 2022). Most people use it to translate their projects without paying attention to quality. Ngo, Assembe, and Tyers (2022) have stated that Google Translate is currently able to translate from 103 languages to 15 African languages. Sipayung et al. (2021) have stated that U-dictionary was released in March 2016 in Hongkong and more than 50 million users have already downloaded the application. Sometimes, machine translation is attractive and unavoidable (Sun et al., 2020; Chatzikoumi, 2020). In this research, the researcher would like to describe the

impact of machine translation on translation accuracy. Researchers believe that machine translation cannot analyze the context of source language and target norms. By knowing the impact, the researcher hopes the translator will be aware and wise to use machines in translating. In addition, the researcher assumes that machine translation cannot accurately translate a technical term to a target.

There are some serious problems for students to do their project in translating. Most of them choose a short way of translating by using machine translation without editing (Andari, Sofyan, & Yusuf, 2022). This phenomenon should be solved by providing scientific information to the students or users of machine translation. Sipayung (2018) has stated that machine translation quality is the primary attention of translation studies. According to Sofyan and Tarigan (2019), there are two factors of the problem in measuring translation quality: subjectivity and relativity. Based on this, the researcher uses informants or inter-raters to decrease subjectivity. In addition, machine translation is widely used but is poor in reviewing. The effectiveness of machine translation, like Google Translate, is to translate word for word and phrase for phrase. The next problem is the linguistics problem in machine translation. Through the research, the suggestion is delivered linguistics engineering for developing machine translation.

There are some previous researchers who focus on machine translation and translation quality. Sutrisno (2020) has investigated the accuracy of Google Translate at the sentence level. This investigation confirms that Google Translate is effective in the level of words and phrases. Kartika and Priyatmojo (2018) have confirmed that Google Translate produces less accurate translations. This finding aligns with Maslihah (2018) and Citra (2021), who have realized the weakness of Google Translation. It is also supported by Khoiriyah (2020), who confirms that Google Translate produces poor grammatical arrangement. The comparison of human and machine translation has also been conducted by Qian et al. (2019), who stated that machine translation leads to inaccurate and improper word/phrase selection, which leads to poor fluency. In addition, Yaakub, Sismat, and Nadzirah (2020) have analyzed the semantics and pragmatics of machine translation. Rivera-Trigueros (2021) has explored that only 22% use machine evaluation to measure the translation quality. This research shows that machine translation is weak to analyze in the area of semantics and pragmatics. However, these previous researches do not pick the idea up to compare the translation accuracy with and without the help of machine translation.

Based on these problems and the research gap, the researchers would like to describe the translation accuracy without and with the help of machine translation. After knowing the result, the researcher will give a chance for students to use a machine in translating or not. The accuracy of translation will be rated by inter-raters. By doing that plan, the objective

of the research can be achieved. The researchers are able to describe the impact of machines on translation accuracy.

To achieve the objective that has been stated, the researchers use the theory of Nababan about translation quality. Nababan, Nuraeni, and Sumardiono (2012) have stated that there are three aspects of translation quality: accuracy, acceptability, and readability. In addition, Anggraini, Nababan, and Santosa (2020) have stated that a good translation should fulfill three aspects: accuracy, acceptability, and readability. Translation accuracy is the first aspect with a high weight on translation quality (Nababan, Nuraeni, & Sumardiono, 2012). It indicates that translation accuracy is essential on translating. Translation accuracy plays a role in the level of meaning of technical terms and source meaning. Distortion of meaning needs to be avoided for translation accuracy (Maslihah, 2018).

The result of this investigation contributes to the novelty of the development of translation studies like language engineering (machine translation, corpora, terminology, lexicology, and multimedia). Most scholars focus on language engineering, such as Stahlberg (2020); Septarina, Rahutomo, and Sarosa (2019); Wang (2020); and Jiang et al. (2022), but none of them investigate translation accuracy. In addition, the contribution of research findings will ask other researchers, even professional translators, to be wise to use machine translation. The benefit of the research will advise students to use the machine or not in translating, especially from an accuracy point of view. The students will know how to improve the accuracy of translation. Translation lecturers suggest an alternative way to achieve the accuracy of translation. This finding also gives feedback for the industrial (service of development) machine translation. The industrial can develop their translation machine, so other people who like to translate can have high-quality target text (TT).

METHODS

The research applies a qualitative research design. The researcher applies techniques like content/document analysis, questionnaire, and depth-interview to collect the data. There are two types of data in the research, namely objective and affective data. The objective data are pairs of translations. Pairs of translation in the form of sentences or clauses indicate that the characteristics data is qualitative (Bogdan & Biklen, 2007). Affective data are translation accuracy scores. The score helps the researcher to describe the accuracy. Both data help the researcher know the impact of machine translation on accuracy.

Objective data in the research are the product of translation from the first archup to the third version. The effective data are scores (1-3) from inter-raters. There are three raters in the research. The first rater is a sworn translator (Indonesia-English and English-Indonesia); the second is a professional translator from

HPI (*Himpunan Penerjemah Indonesia*); and the last is the researcher, who graduated majoring in Applied Linguistics on Translation.

To collect the data, the researcher applies the procedures: (1) The researchers ask the students to watch a short story (15 minutes) entitled *Roda Kehidupan*, which can be accessed at <https://youtu.be/0Ltg8YMZjDU>. (2) The researcher asks the students to summarize 50-100 words in their native language. (3) The researcher asks them to translate their summary into good English without the help of machine translation. It is called the translation of the first version. (3) The researcher asks them to re-translate their solely with the help of machine translation. It is called the translation of the second version. (4) The researcher asks them to edit their translation as a final or third version. (5) Finally, the researcher asks the inter-raters to measure the whole translation type based on the concept of Nababan.

To analyze the data, the researcher asks inter-raters to score the translation accuracy from the first type until the third type of translation. The researcher calculates the average of the first translation type till the last type. The average shows the impact of machine translation on translation accuracy. Depth-interview is done to clarify the score of translation accuracy. These steps help the researcher to achieve the objective of the research.

RESULTS AND DISCUSSIONS

The impact of machine translation, which is used by the students on translation accuracy, can be seen in Table 1. After analyzing the data, the research has found that the average on the first translation version is 1,1. It means the translation accuracy on the first version of the short film entitled *Roda Kehidupan* is inaccurate. Most of the meaning of words, technical terms, phrases, clauses, and sentences or source text are not accurately transferred in the target text or deleted. In addition, the average translation in the second version is 2,4. It indicates that translation accuracy on the second version or with the help of machine translation is less accurate. Less accuracy occurs because most of the meanings of words, technical terms, phrases, clauses, sentences, or source language text have been accurately transitioned into the target language. However, there is still a distortion of meaning or double translation of meaning or some omitted meaning, disturbing the integrity of the message. The average translation accuracy for the third version is 2,3. This score helps the researcher to conclude that translation is categorized as less accurate. Less accuracy occurs because most of the meanings of words, technical terms, phrases, clauses, sentences, or source language text have been accurately transitioned into the target language. However, there is still a distortion of meaning or double translation of meaning or some omitted meaning, disturbing the integrity of the message. The details of the results of the research

can be seen in Table 1.

Table 1 Translation Score of Accuracy from Inter-Raters

	First Version (With MT)			Second Version (Without MT)			Third Version (Editing 2 nd Version)		
	Rater			Rater			Rater		
	1 st	2 nd	3 rd	1 st	2 nd	3 rd	1 st	2 nd	3 rd
Average	1,3	1,5	1,6	2,3	2,6	2,3	2,4	2,5	2,2
Total Average	1,5			2,4			2,3		

Table 1 shows the score of translation, which is from inter-rater. If the score is 1 based on the rater, the meaning of words, technical terms, phrases, clauses, and sentences or source text are not accurately transferred in the target text or deleted. However, if the score is 2 based on the rater, it indicates that most meanings of words, technical terms, phrases, clauses, sentences, or source language text have been accurately transitioned into the target language. However, there is still distortion of meaning or double translation of meaning or some omitted meaning, disturbing the integrity of the message. When the score is 3 from the rater, it means that the meaning of words, technical terms, phrases, clauses, sentences, or source language text is accurately transferred into the target language text, and there is no distortion of meaning.

The total average in Table 1 indicates that translation accuracy without the help of machine translation is categorized as inaccurate (1,5) or the impact is negative. Contrary to that, translation accuracy with the help of machine translation has a positive impact on the average 2,4. It means that most technical terms and source meanings are translated with less distortion in the target language. In line with that, translation accuracy on the final version of the translation is categorized as less accurate (2,3).

Based on the first rater, the translation of *bengkel* into **garage** is categorized as less accurate; it should be **a workshop**. In addition, the second rater gives a score of 1 or inaccurate. Most translations are transferred inaccurately, like the translation of *beberapa lama kemudian* becomes **a view later** that should be **in some minutes**. The third rater also gives a score of 2 because some translation in the level of technical meaning distorts meaning. The description of translation produced by SD without the help of machine translation can be seen in this translation.

Source text (summary):

Cerita tersebut menceritakan seorang pekerja di salah satu bengkel yang mendapat complain dari salah satu pelanggan. Beberapa lama kemudian pelanggan tersebut datang lagi dan terkejut melihat pekerja tersebut belum dipecat. Kemudian pelanggan

itu meminta pekerja tersebut menelpon bos nya karena ingin melamar dibengkel tersebut. Tanpa membantah pekerja tersebut menelpon bos nya. Setelah pelanggan tersebut bertemu dengan bos bengkel tersebut, **ternyata** bengkel telah dijual ke pekerja tersebut. Mantan bos bengkel tersebut menyarankan agar melamar kepada pekerja itu namun pelanggan tidak mau **jika harus** bekerja untuk pekerja itu. Kesimpulan: kehidupan itu selalu **berputar**, jangan pernah **gengsi** untuk bekerja apapun dan bekerja dengan **siapapun**.

Target text without the help of translation machine (first version):

The story tells about a worker in a **garage** who get it complain from a customer. And **a view later** the customer back again and **shock seen** the worker not yet fired. Then the customer ask the worker to call his boss because **want propose** in the garage. Without complain the worker call his boss. After the customer meet with the boss of the garage **turn out** the garage has been sold to the worker. The ex-boss **advice to propose to the worker** but the customer do not want **if has to** work with the worker. Conclusion: The life always **rotate**, never to be **odor** to work anything and work with **whoever**. (Excerpt 1_SD/wt/mt/R1,2,3)

Based on the first rater, the score is 2. According to him, some meanings of words are transferred accurately, but there are some distortions of meaning (see the bold words or phrases) on target text without the help of machine translation. In addition, the second rater (professional translator) gives a score of 1. It indicates that most words and phrases are transferred inaccurately. Finally, the last rater (the researcher himself) has the same perception as the first rater. The third rater gives a score of 2, which indicates that some distortion occurred since translating the source text without the help of machine translation. The rate from inter-raters is displayed in the first to the third column, as described in Table 2.

The following data analysis is from EM (data number 26). EM is allowed to choose Bingtranslator to translate the summary. Some translations (bold signs) are categorized as less accurate (score 2) and accurate (score 3). Each score comes from inter-raters. The first rater gives a score of 2 because, according to him, some distortion of meaning occurs in the target language. It can be seen that the translation of *kehidupan itu berputar* into **life spins** according to the first rater; the translation should be *life run like a spin*. However, the second and the third rater gives a score of 3, indicating that the translation of Bingtranslator is accurate.

In addition, the second rater suggests the translation of *ingin memecat karyawan tersebut* becomes **want to fire out the employee** that should not *wanting to fire the employee*. The translation of *Molo mamora ho, parsiajari martali sungkit, molo pogos ho parsiajari mangalithon detar* should be translated into the target language with a description translation technique. The details of the data analysis can be seen

in this example.

Source text (summary):

Dari video singkat tersebut dapat saya simpulkan bahwa **kehidupan itu berputar** seperti roda yang mana dalam video menceritakan seorang pemuda yang bekerja sebagai karyawan di sebuah **usaha bengkel**. Dia **memiliki sifat** yang baik, sopan, dan rendah hati. Dan di sisi lain ada juga seorang yang kaya dan sangat sombong. Dia memiliki segalanya dan merasa berkecukupan sehingga merasa bahwa dirinya selalu benar dan memiliki hak untuk segalanya termasuk **ingin memecat karyawan tersebut**. Tiga tahun kemudian kehidupan itu berputar; pemuda yang bekerja di bengkel tersebut **berposisi sebagai bos** atau pemilik usaha tersebut sedangkan orang kaya yang sombong itu **sibuk untuk mencari pekerjaan** termasuk ingin melamar menjadi seorang anggota atau pekerja di tempat usaha milik temanya dulu yang sekarang sudah menjadi milik pemuda yang disepelkannya itu. Dia tidak percaya akan hal itu dan dua orang temannya memberikan dia masukan supaya bekerja sebagai anggota di usaha tersebut namun dia tetap tiak mau karena dia merasa bahwa pemuda itu tidak pantas untuk menjadi bosnya. Dalam kehidupan ini kita juga sering menemukan kejadian yang seperti itu. Dan juga seperti perumpaan yang ada di video itu bahwa **“Molo mamora ho, parsiajari martali sungkit, molo pogos ho parsiajari mangalithon detar”** yang artinya martali sungkit yaitu pakaian biasa pada umumnya yang bermaksud untuk meskipun kita kaya kita harus selalu rendah hati dan sederhana dan **detar** yang bertujuan kepada orang miskin. Jika kita miskin kita harus jadi orang yang pintar atau bijak. Pelajaran untuk kita bagaimana pun posisi kita, apapun yang kita miliki tetaplah rendah hati jangan sombong karena apapun yang kita miliki itu hanya sebuah titipan.

Target text with the help of machine translation (Second version):

From this short video, I can conclude that **life spins** like a wheel. Which in the video tells of a young man who works as an employee in a **repair shop**. He has a good **nature**, is polite and humble. And on the other hand, there is also a person who is rich and very arrogant. Because he has everything and feels sufficient, he feels that he is always right and has the right to everything, **including wanting to fire the employee**. Three years later, life revolves around the young man who works in the workshop **in the position of boss** or owner of the business, while the arrogant rich man is **busy looking for work**, including wanting to apply to become a member or worker at a business owned by his former friend, which is now owned by a young man. ignored it. He didn't believe in it and two of his friends gave him advice to work as a member in the business but he **still** didn't want to because he felt that the young man was not **fit** to be his boss. In this life we also often come across such incidents. And also

like the parable in the video that “*Molo mamora ho, parsijari martali sungkit, molo pogos ho parsijari mangalithon detar*”, which means *martali sungkit*, namely ordinary clothes in general which mean that even though we are rich we must always be humble and simple and *detar* aimed at the poor. If we are poor we have to be smart or wise **people**. **Lesson** for us, no matter what our position is, whatever we have, stay humble, don't be arrogant, because whatever we have is just a deposit. (Excerpt 26_EM/w/mt/R1,2,3)

Machine translation is able to translate the target with a suitable translation accuracy; however, there is a certain source meaning that is translated with blur or meaning distortion. The final version of the translation is taken from DS, data number 28. The first and third raters conclude that the translation is less accurate, with a score of two. It occurs because of some reasons, like the translation of *meninggikan*, becoming *to exalt* and should be *proud* or *arrogant*. Another example is the translation of *... telah terjadi...* becomes *...put other people down...* leads to the distortion of meaning, the translation should be *...have done...* In addition, the second rater gives a score of 3 or is categorized as accurate. The details of the data analysis can be seen in the final translation, which is made by SD.

Source text (summary):

Dari film tersebut saya dapat mengambil kesimpulan bahwa jangan meninggikan diri dan jangan merendahkan orang lain. Terkadang kita terlalu cepat berpuas diri dengan apa yang kita miliki dan tidak sadar merendahkan pekerjaan orang lain. Dan ketika kita berada di bawah, barulah kita menyesal dengan apa yang telah terjadi. Jangan lupa untuk mengakui kesalahan agar tidak menyesal dikemudian hari.

Target text (final version):

From the film, I conclude not **to exalt** yourself with what you have and don't **put other people down**. Sometimes we are **too quick** to be complacent with our current achievements, to the point of unknowingly hurting others by demeaning their work. And when the **wheel of life spins that we are under**, it makes us regret that we have **put other people down**. Do not forget to admit the mistakes that have been made so that there are no regrets in the future. (Excerpt 28_DS/fv/R1,2,3)

Based on the sample of data analysis, it can be concluded that machine translation could translate the source to the target with less accuracy. It is better than without the help of machine translation. In other words, students' translation with and without machine translation shows a different score of translation accuracy. It indicates that machine translation plays a capital role in translation. However, the accuracy of the final translation is categorized as less accurate.

The presence of machine translation helps the translators in their projects because they do not need to spend much time translating. However, there are many things that the machine translator needs to develop, especially in translation quality. The research explains that machine translation positively impacts translation accuracy even though it is categorized as less accurate, but the impact is positive. It can be seen from the average translation accuracy without machine translation is 1,5, and the average translation accuracy with it is 2,4, and the final translation version is 2,3, categorized as less accurate. However, the quality of the second and the third version need to be improved by the developer of machine translation.

Some previous research supports the research. Kartika and Priyatmojo (2017) have found that the quality of translation results by Google Translate is less accurate, less acceptable, and less readable. Kristina and Sujarwati (2021) have found that many errors are produced by Google Translate in translating the short story; the most frequent errors found are incorrect words and missing words. Citra (2021) has stated that machine translation, like Google Translate, has a weakness in analyzing context, and the translation is inaccurate.

Khoiriyah (2020) has confirmed that the translation of Google Translate does not have a grammatical arrangement or does not have a good grammatical structure. Sujarwo (2020) has stated that the translation machine in translating words, phrases, texts, and paragraphs has to recheck and rearrange to get a good translation by their own understanding. Maslihah (2018) has stated that students realize the weaknesses of Google Translate and the grievance impact after using it for their final writing task. The new insight of the research confirms that the role of machine translation is positive; however, human touch is essential to achieve accurate translation.

The main result of the research and some previous research supports that machine translation has a weakness in translating, especially from a translation quality point of view. The accuracy is categorized less because machine translation is not able to recognize the situation (Lawson et al., 2019). In addition, machine translation prefers to reduce information from the source to the target language. The machine translation industry needs to develop it to translate the source based on the context and add more information to the target. The result of the research contributes to the novelty of language engineering to develop translation studies even if it is categorized as interfacing with other fields.

CONCLUSIONS

The research confirms that machine translation positively impacts translation accuracy (see Table 1) even though it is categorized as less accurate (first version). However, the positive impact occurs when the translator uses machine translation. The product

of translation is categorized less with the score 2,4. The weakness of machine translation is not able to accurately translate certain technical terms to target. As a contribution, machine translation can be used as an alternative way of translating, but the translator needs to improve the accuracy of a technical term. Translators need to revise the target meaning of technical terms. The research is still limited to the aspect of translation accuracy. The novelty of the research contributes to machine translation development and teaching translation course media with the machine translation platform. In addition, most researchers do not pay attention to translation quality produced by machine translation. The research already fills that gap. It gives a positive contribution to translation studies through machine translation. It is suggested to investigate other translation aspects, like acceptability and readability, with a specific translation machine.

ACKNOWLEDGEMENT

The research was supported (fund) by LPPM University of HKBP Nommensen. We thank to expertise of inter-raters that greatly assisted the research, although they may not agree with all of the conclusions of this paper.

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