Improving The Quality Of Google Translate Indonesian-Arabic Translations

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Abstract
Arabic Language Education Study Program students must be able to write theses in Arabic. A common obstacle students face is relying on Google Translate to help them translate from Indonesian to Arabic. However, even though it is easy to use, Google Translate still has obstacles when measured using Larson's translation quality indicators. This study aims to improve the quality of Google Translate translation results for Arabic theses using an Android-based term dictionary. This study is a type of classroom action research carried out in 2 cycles, each including planning, action, observation, and reflection procedures. Data collection was carried out through an assessment of the translation results of 22 students selected based on the criteria of being in the process of completing their thesis. The study results showed that of the 12 sub-indicators of translation quality, the aspects of equivalence and suitability of the source and target languages were the lowest quality. Using an Android-based term dictionary significantly reduced error scores and improved translation quality compared to Google Translate as a translation machine. However, the dictionary does not match the efficiency or time savings the translation machine provides. Furthermore, researchers are expected to be able to produce translation machines that can accommodate the intricacies and complexities of the Arabic language in the future.
Keywords: Android; Dictionary; Google Translate; Quality

INTRODUCTION

There has been increasing human need for language translation due to the expansion in the field of knowledge and open communication in all countries around the world, (Aqlan, Fan, Alqwbani, & Al-mansoub, 2019; Zakraoui, Saleh, Al-Maadeed, & Alja'am, 2021). Thus translation indeed has been in demand for individuals and society, both past and present (Alhaisoni & Alhaysony, 2017; Alharbi, 2023; Giaber & Sharkas, 2021; Gunawan & Khairunnisa, 2023; Shahriar, 2023; Umam, 2021). This is due to the fact that language translation is one of humanity's essential needs (Alotaibi, 2020; Daniele, 2019; Endrique, Zepedda, Panamericana, Tecla, & Salvador, 2020; Fitriani & Persada, 2021). Many opinions believe that the current traditional translation is not adequate, and that machine translation is the best alternative (Almahasees, Meqdadi, & Albudairi, 2021; Aqlan et al., 2019; Burhanuddin, Qosim, Amaliya, & Faisal, 2022; Nagoudi, Elmadany, & Abdul-Mageed, 2022; Zakraoui et al. , 2021; Ziganshina, Yudina, Gabdrakhmanov, & Ried, 2021). One of the requirement for students majoring in foreign languages is that they are required to write articles or final assignments in foreign languages, including those majoring in Arabic.

Technology is projected to be present as a solution to tackle language learning challenges, especially Arabic (Nugroho, Muljono, & Nababan, 2022). Aside from that, recent advances in digital technology, specifically the ability of machine translation (MT) to translate with grammatical and lexical accuracy, have increased (Arkadiantika et al., 2019; Han & Meng, 2022; Rossetti & O'Brien, 2019) and are becoming increasingly accessible for language students for academic purposes. (Abu Dayyeh, 2020; Ajibola, Abiodun, and Goosen 2022). As has been the case with the advancement of other digital tools for teaching and learning (Vaquero-cristóbal, Abenza-cano, Albaladejo-saura, & Meroño, 2021).

The global phenomenon related to the use of translation machines shows a very significant increase (Arkadiantika et al., 2019; Xi, 2023). Research related to machine translation and its comparison with human translation has been extensively carried out (Muftah, 2022; Munkova, Munk, Welnitzova, & Jakabovicova, 2021; Prates, Avelar, & Lamb, 2020; Shaikhli, 2022). Then research related to Google Translate has also been widely discussed (Abu Dayyeh, 2020; Ajibola et al., 2022; Arkadiantika et al., 2019; Howard, Tayer Farahani, Rashleigh, & Dooley, 2021; Xi, 2023). The criteria used to evaluate translations are based on the concepts introduced by Larson (Larson, 1984), that include accuracy, clarity and reasonableness. This concept was then expanded by Umi Hijriah (Hijriyah, 2012) into 6 translation assessment techniques, accuracy test, readability test, reasonableness test, comprehensibility test, back translation and consistency test.

Google Translate is one of the most popular machine translation services today (Pertiwi, 2018). According to (Jordan, 2017) Indonesia is one of the Top 10 countries with the highest Google Translate Users. This shows that currently Google Translate has become a favorite for many people in all disciplines, including language academics studying second languages (Alasmari, Watson, & Atwell, 2016; Alsalem, 2019; Bin Dahmash, 2020). Based on research from (Arifatun, 2012) Arabic language papers are considered very challenging and a difficult task for students. Therefore, students frequently translate Indonesian papers into Arabic via access to Google Translate and vice versa. This has also been confirmed by research by (Nurman, 2019) that Foreign Language Education students writing papers in Arabic struggle in completing their papers, and the average student completes their degree in a minimum of 10 semesters, the process will take time. According to (Bahri & Mahadi, 2016; Ghasemi & Hashemian, 2016), a surge in relying machine translation has resulted from a shortage of time and the requirement to translate texts for various reasons. Another point of view is that we live in a fast-paced world where time is limited and we want to be very productive in a short period of time, and computers are frequently viewed as time or deadline savers (Precup-Stiegelbauer, 2013).

In line with the description above, similar problem is also experienced by Foreign Language Education students at UIN Imam Bonjol Padang. Based on initial observations made by researcherss as related to previous research (Dinata, Dalimunthe, Syafrimen, & Balah, 2023) regarding The Gaps of Students' Writing Skills in Arabic Thesis Writing, more than 80% of students translated their thesis using Google Translate. Previous research results showed that of the 39 respondents, 38.5% responded that they could read and understand the Google Translate translation results, and 38.5% could only read but not understand the Google Translate translation results while of the 39 respondents,

66.7% answered that the translation results were not in accordance with the rules of nahwu and sharf, and 15.4% even answered that the results did not comply entirely.

One innovation that can be implemented to improve inaccurate or inappropriate results in the use of research terms is by using a dictionary (Arifin & Mulyani, 2021; Busro, 2016; Fathanah, Bigadaran, Hasan, & Wargadinata, 2021; Gastinger & Schmidtke, 2022; Maier, Baden, Stoltenberg, De Vries-Kedem, & Waldherr, 2022; Taufiqurrochman, 2019, 2020). However, in the translation process, Arabic students generally find the large and thick dictionaries ineffiecient to look for foreign vocabulary or terms, thus they are more likely to use electronic or digital dictionaries. This is because digital dictionaries, especially those based on Android, allow students to search for foreign vocabulary easily and quickly, thereby supporting time efficiency (Azzikri, 2019).

The researcherss therefore assumes that by using an Android-based dictionary of research terms through class action research, errors in students' translation results can be corrected so that the quality of the assessment of Google Translate translation results on students' Arabic theses can be improved. Based on the previously explained background and assumptions, this research aims to improve the quality of Google Translate translation results seen the thesis written in Arabic and analyze how much the quality of Google Translation results has improved by using an Android-based dictionary of research terms based on six quality test indicators for translation results developed by Umi Hijriah (Hijriyah, 2012) into 6 translation assessment techniques, namely accuracy test, readability test, reasonableness test, understandability test, back or reverse translation, and test for consistency.

METHOD

This research was carried out using a type of classroom action research. Action research is basically aimed at improving skills or solving a problem. (Altrichter, Kemmis, McTaggart, & Zuber-Skerritt, 2002; Arikunto, 2021; Susilo, 2011; Susilo, Chotimah, & Sari, 2022; Tinmah & Rahman, 2018). Therefore, this research will focus on improvements in accordance with action research with implementation stages including planning, action, observation, and reflection stages (Cohen, Manion, & Morrison, 2017; Efron & Ravid, 2019; Kemmis, McTaggart, & Nixon, 2014; McNiff, 2016). The main problem of this action research is how to improve the quality of the translation of Arabic thesis results from Google Translate through the use of an Android-based digital dictionary of research terms for students who are writing theses in Arabic. The research subjects were UIN Imam Bonjol Padang students in 2023 who were writing their theses in the even semester, 8th, 10th or 12th semester, totaling 22 people, consisting of 18 women and 2 men. Data collection in this research was carried out utilizing test (evaluation) techniques.

The test or evaluation carried out was measuring the quality of the translation results of students whose translation was done utilizing Google Translate application. The assessment refers to six indicators for assessing translation results formulated by (Larson, 1984) that have been modified by (Hijriyah, 2012) by breaking them down into 12 sub-indicators as in the following matrix.

Table 1. Quality Measurement Matrix of Translation Results

No	Translation Results Test Indicator	Translation Results Test SubIndicator

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1	Accuracy Test	Comformity of Meaning from source and target language Comformity of Information
2	Readability Test	Word choice, sentence and paragraph structure Legibility of typesetting
3	Reasonableness Test	Grammatical structure Reasonable use of idioms/uslubs
4	Understandability Test	Flow conformity Discourse structure
5	Reverse Translation Test	Text Translation Structure Meaning Conformity
6	Consistency Test	Key term Consistency Grammatical Consistency

From Table 1 above, for each sub-indicator, an error score will be formulated in the translation results, the scores later were will be converted into 5 assessment scales. The greater the error score obtained, the smaller the conversion on the assessment scale. The result of the error score conversion is a value scale for each sub-indicator. With a total of 12 subindicators, a maximum value of 60 will be obtained and then converted to a maximum value of 100.

There were 2 data analysis techniques used in this research, the first was quantitative descriptive percentage data analysis to analyze the results of translation quality tests and qualitative analysis from Miles and Huberman (Al-Amer, Ramjan, Glew, Darwish, & Salamonson, 2015; Creswell, 2016; Huberman & Miles, 2002) which has four stages, namely data collection, data reduction, data presentation and conclusions and verification (Jogiyanto Hartono, 2018; Majid, 2017; Sarosa, 2021; Wijaya, 2020).

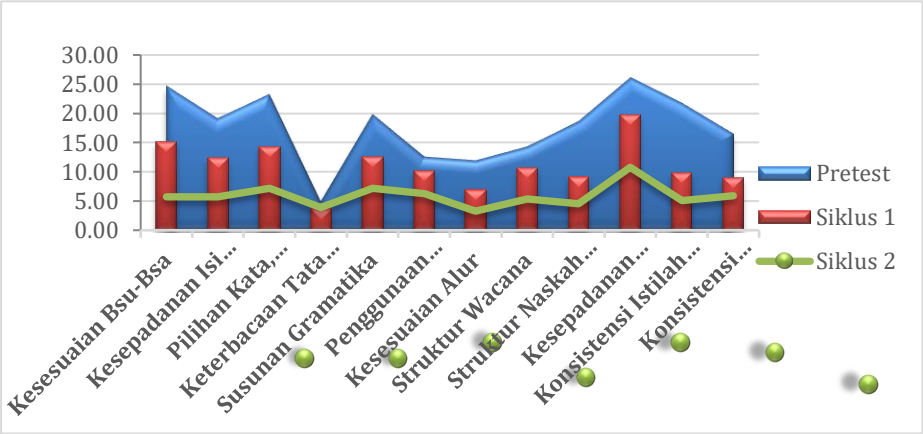
RESULTS AND DISCUSSION

This research was carried out in two cycles, with the procedure for each cycle consisting of four steps or stages, namely preparation, implementation, observation and reflection. After the preparation stage was completed, in the implementation stage, a pretest was conducted to measure the initial quality of the results of the translation of the Arabic thesis translated by the students. The pretest results showed that there were many errors in students' translations, at least from the results of the six indicators of the translation results assessment test. The assessment refered to six indicators for assessing translation results formulated by (Larson, 1984) which have been modified by (Hijriyah, 2012) in which there are two sub-indicators for each indicator. Once the cycle I was completed, utilizing an Android-based dictionary of research terms to correct the results of translation errors in the Arabic thesis, it was found that there was decrease in the errors in the pretest results. However, after reflecting, the researcherss felt that in this first cycle, several aspects could have been improved. The technical aspect, the process of installing the dictionary on the student's Android, became quite chalenging during this first cycle.

Decrease In Translation Error Score

After reflecting on cycle I, the researcherss continued the research into cycle II, the result was a decrease in the error score for better translation results from cycle I. In cycle II the researchers also added several strategies to improve aspects of the sub-indicator Consistency of term use by using the "replace" feature in Microsoft Word so that inconsistencies in aspects of term use could be minimized quite efficiently (Kim, Hong, & Kim, 2021; Miller & Marshall, 2004; Reeves, 2014). Details of the decrease in

error scores for the twelve sub-indicators from pretest to cycle II are shown in the following graph:



Based on Graph 1 above, the aspect of conformity of meaning is the aspect with the highest error score, with an average error score of 26, which means the error score is significantly high. The problems most often found in translation incommensurability are that the "image" in the source language is not known in the target language and the type of comparison carried out between the source language and the target language is different (Rakhmyta, 2018). Subsequently, the aspect of conformity between the source language and target language as well as comformity of information also has a fairly high error score, namely an average of 24.64 for suitability and 23.18 for equivalence. This shows that the equivalence (Putranti, 2021; Triawan et al., 2022) and suitability of Google Translate translation results is still very low (Ghasemi & Hashemian, 2016; Umam, 2021). Meanwhile, the aspect with the lowest error score is the readability aspect of the letters, average score of 5, which means the error score is quite low. This indicates that the readability of Arabic letters from Google translation results is quite good because the characteristics of a type of letter are important and closely related to the level of readability (Saryanto, 2021).

Improved Quality Of Translation Results

After obtaining the error score for each aspect or sub-indicator, the researchers combines all of the six aspects, to obtain a value, the researchers uses the formula:
(Total Score obtained: Max Score) x 100 = Value
then the overall score for the pretest, Cycle I and Cycle II is obtained as follows:

Table 1. Improved Quality Of Translation Results From Pretest-Cycle II

No	Students	Improved Quality of Translation Results								
		Pretest			Cycle 1			Cycle 2		
		Total	Score	Grade	Total	Score	Grade	Total	Score	Grade
1	AP	31	51,67	D	44	73,33	B	56	93,33	A
2	AY	31	51,67	D	43	71,67	B	54	90,00	A
3	ASF	31	51,67	D	43	71,67	B	53	88,33	A
4	ADP	31	51,67	D	44	73,33	B	53	88,33	A
5	AR	30	50,00	D	45	75,00	B	53	88,33	A
6	BN	30	50,00	D	42	70,00	B	50	83,33	B
7	ER	31	51,67	D	45	75,00	B	50	83,33	B
8	FY	34	56,67	C	40	66,67	C	53	88,33	A
9	HS	32	53,33	D	43	71,67	B	53	88,33	A

10	HR	33	55,00	C	44	73,33	B	53	88,33	A
11	HK	30	50,00	D	42	70,00	B	54	90,00	A
12	LY	28	46,67	D	48	80,00	B	55	91,67	A
13	MF	33	55,00	C	47	78,33	B	50	83,33	B
14	MR	34	56,67	C	40	66,67	C	45	75,00	B
15	MRS	33	55,00	C	47	78,33	B	55	91,67	A
16	NH	35	58,33	C	48	80,00	B	56	93,33	A
17	NR	31	51,67	D	46	76,67	B	57	95,00	A
18	NAR	31	51,67	D	44	73,33	B	54	90,00	A
19	NFZ	35	58,33	C	47	78,33	B	55	91,67	A
20	NHN	30	50,00	D	48	80,00	B	55	91,67	A
21	TM	35	58,33	C	48	80,00	B	58	96,67	A
22	YA	44	73,33	B	51	85,00	A	60	100,00	A
Rata-rata		32	54,0152	D	45	74,92	B	54	89,5455	A

Description:

Score Range	Grade	Description
85-100	A	Very Good
70-84	B	Good
55-69	C	Fairly Good
40-54	D	Bad
0-39	E	Failed

From the presentation in table 1 above, in cycle 1, there was quite a significant increase, as evidenced by an increase in the average score from 54 with grade D to an average score of 75 with grade B. In detail, of the 22 students, no student got grade D, while only 2 students had a grade of C, the majority of students had a grade of B, namely 19 people, and there was 1 person who got a grade of A. Meanwhile in cycle II, of the 22 students, the majority had gotten an A grade, namely 18 students, and only 4 people got a B grade. The results of research on the use of an Android-based research term dictionary (Arifin & Mulyani, 2021; Azzikri, 2019) at meetings 1 and 2 of cycle II showed a significant improvement, although there were slight shortcomings but it was still in the very good category. The researchers considers that in cycle II the participants had succeeded in using an Android-based dictionary of terms thus they were no longer confused in making improvements to the translation from Google Translate using an Android-based dictionary of terms. Tips and tricks provided by researchers are very useful for students, including the use of replace editing (Reeves, 2014), then improvements related to the use of ushlub or Arabic language rules (Nurbayan, Nurbayan, & Falah, 2020) which are very often used in translations, especially research reports or theses. Meanwhile, details of the improvement from pretest to cycle II can be seen from the graph below:

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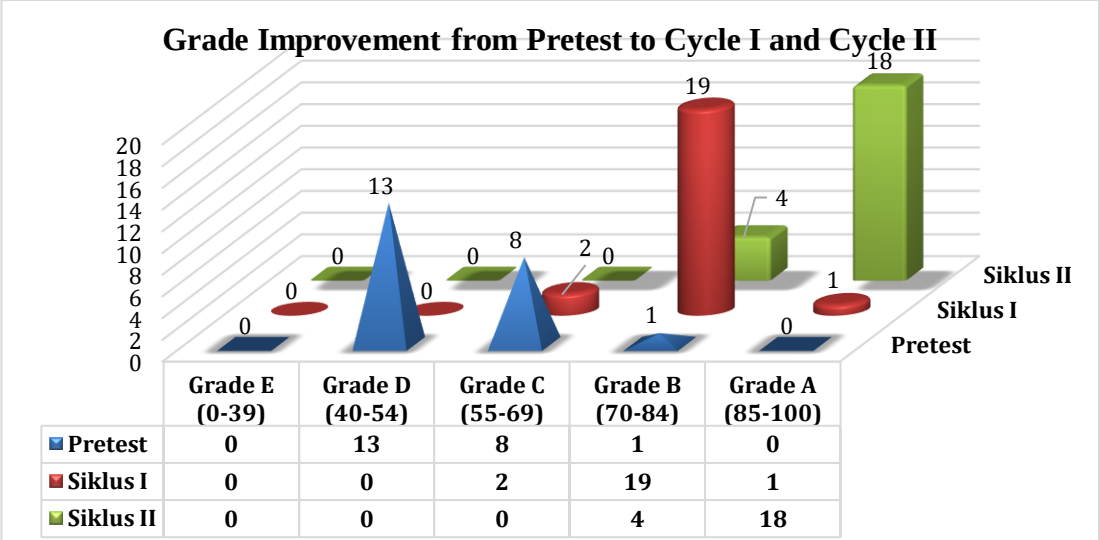

	Grade E (0-39)	Grade D (40-54)	Grade C (55-69)	Grade B (70-84)	Grade A (85-100)
Pretest	0	13	8	1	0
Siklus I	0	0	2	19	1
Siklus II	0	0	0	4	18

Pic 2 Increase in Value from Pretest to Cycle I and Cycle II

The increase in grades or quality of student translations has also been optimal, with details of 22 students, 18 people received Very Good (A) and 4 people received Good (B). In detail, in the pretest, detailed data on students who received a bad score was still dominant, namely of the 22 students who got a D score, 13 people got a C score, 8 people got a C score and 1 person got a B score. Therefore, the researchers concluded that there was lack of initial abilities reflected in the quality of the students' translations. That is, fewer students received an average of 54 in the grade D category. Meanwhile, in cycle 1, there was quite a significant improvement, this was proven by an increase in the average score from 54 with grade D to an average score of 75 with grade B. In detail, from 22 students, there were no students who got a D grade (0%), while only 2 students got a C grade (9.1%), the majority of students received B grade, namely 19 people (86.36%), and 1 person got an A grade (4.54%).

However, in cycle II, the majority of the 22 students got an A grade, namely 18 students (81.81%), and only 4 people got a B grade (18.19%). This shows that dictionaries are indeed more reliable. in translation (Agussalim, 2013; Chan, 2017; Hastang, 2019) compared to merely relying on machine translation (Maier et al., 2022).

Quality of Assisted Dictionary Translation VS Efficiency of Machine Translation

Time saving or efficiency is a obviously a prominent advantage of machine translation (Muftah, 2022). This is proven by research results which state that the majority (80%) of students use Google Translate as a tool to help translate their Arabic theses (Dinata et al., 2023) however in terms of the quality of the translation results, the machine translation results are not accurate except for the readability of the letters. There were 6 indicators utilized to assess the quality of a translation, (Larson, 1984), namely accuracy test, readability test, reasonable test, understandibility test, reverse translation and consistency test. If broken down into 12 sub-indicators (Hijriyah, 2012), namely 1) Conformity of the meaning of the source language with the target language, 2) Conformity of information content, 3) Word Choice, sentence structure and paragraph structure, 4) Readability of the typesetting, 5) Grammatical Structure, 6) Reasonable use of idioms/uslubs, 7)Plot conformity, 8) Discourse structure, 9) Structure of the translation

text, 10) Conformity of meaning, 11) Consistency of key terms, 12) Consistency of grammar.

This research found that the quality of machine translation still needs to be improved, especially in several aspects or indicators of translation quality assessment, namely the aspect of comformity of meaning (Rakhmyta, 2018) and the aspect of information and meaning conformity of the source language (SL)-target language (TL), with the highest errors. (Putranti, 2021). In the quality aspect, through the utilization of an Android-based dictionary of research terms, there was an increase in the quality of participants' translation results from Google Translate translations. The quality of translation using dictionaries is indeed rather improved (Hastang, 2019) but in terms of efficiency it is still very far behind machine translation (Shaikhli, 2022) in term of time efficiency. Consequently, the combination of the two is expected to be able to overcome the low quality of machine translation and the time efficiency of merely utilizing a dictionary, especially if the dictionary used is not a digital dictionary which requires more time (Nurman, 2019). The results of this research indicate that the use of an Android-based digital dictionary has been proven to be able to improve Google Translate translation results. However, in the aspect of consistency in the use of terms, it is necessary to add several methods that can increase the time efficiency of using the dictionary, namely by using several features in Microsoft Word (Reeves, 2014) such as the find and replace feature which really helps improve the quality of the term consistency aspect, in addition to manually correcting the terms.

CONCLUSION

The utilization of an Android-based dictionary has succeeded in providing a significant increase in translation quality compared to Google Translate as a translation machine. This is proven by an increase in the average score from 54 with grade D to an average score of 75 with grade B as seen in cycle I. Meanwhile in cycle II, 18 out of 22 students received A grade, and the remaining 4 people have received a B grade. Nevertheless, although utilizing using a dictionary improves the quality of the translation results from Google Translate, using a dictionary has not been able to compete with the time efficiency offered by a translation machine. In addition to using a digital or Android-based dictionary, several tricks and strategies to improve machine translation results that can increase time efficiency are needed such as by using several features available in Microsoft Word and correcting grammatical errors manually. Susequently, future researcherss are expected to develop a translation machine that can accommodate the complexity and intricacy of Arabic language as well as to provide an effective and efficient way to translate from Indonesian to Arabic.

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