



The Utilization of Artificial Intelligence (AI) Translators to Improve Writing in EFL Classroom

Fairuz Lazuardiyah^{1*}, Slamet Setiawan², Widyastuti³

^{1,2,3}Universitas Negeri Surabaya, Indonesia.

e-mail: ¹fairuz.23006@mhs.unesa.ac.id, ²slametsetiawan@unesa.ac.id, ³widyastuti@unesa.ac.id

Abstract In recent years, there has been a rapid development in Artificial Intelligence (AI), including AI translators. AI translator tools are utilized in education, especially in language learning. The current study aims to investigate the utilization of AI translators to improve the quality of students' writing in an EFL classroom. This research is a quantitative study using a questionnaire to collect data from 40 EFL students in one of the state universities in Surabaya. The data obtained were analyzed using descriptive statistics and independent-samples t-test. The results show that most students perceive positive attitudes, such as that AI translators is easy to use, can improve their writing and translation quality, and many others. However, they agreed with the negative statements, such as that machine translation is considered cheating, the issue of dependence, etc. This study also revealed no significant differences in writing quality between the students who have positive and negative attitudes towards the utilization of AI translators.

Keywords: AI Translators; Students' Attitude; Writing

Abstrak Dalam beberapa tahun terakhir, telah terjadi perkembangan pesat dalam Kecerdasan Buatan (AI), termasuk penerjemahan kecerdasan buatan. Alat Penerjemahan kecerdasan buatan digunakan dalam dunia pendidikan, terutama dalam pembelajaran bahasa. Penelitian ini bertujuan untuk menyelidiki pemanfaatan penerjemahan kecerdasan buatan untuk meningkatkan kualitas tulisan siswa di kelas EFL. Penelitian ini merupakan penelitian kuantitatif dengan menggunakan kuesioner untuk mengumpulkan data dari 40 siswa EFL di salah satu universitas negeri di Surabaya. Data yang diperoleh dianalisis dengan menggunakan statistik deskriptif dan uji-t sampel independen. Hasil penelitian menunjukkan bahwa sebagian besar mahasiswa memiliki sikap positif, seperti penerjemah kecerdasan buatan mudah digunakan, dapat meningkatkan kualitas tulisan dan terjemahan, dan lain-lain. Namun, mereka tidak setuju dengan pernyataan negatif, seperti bahwa penerjemahan kecerdasan buatan dianggap curang, masalah ketergantungan, dan lain-lain. Penelitian ini juga menunjukkan bahwa tidak ada perbedaan yang signifikan dalam kualitas tulisan antara siswa yang memiliki sikap positif dan negatif terhadap penggunaan penerjemah kecerdasan buatan.

Kata Kunci: Penerjemah Kecerdasan Buatan; Perilaku Siswa; Menulis

INTRODUCTION

Technology has developed rapidly in recent years, especially Artificial Intelligence (AI). Artificial Intelligence (AI) is widely used by individuals in many fields, including education. According to Chung and Ahn (2022), significant changes have occurred in the classroom due to swift progress in digital technology and wide access to online materials within educational settings. Thus, technology, especially Artificial Intelligence, cannot be separated from education.

Artificial intelligence can serve as a solution to numerous challenges in the field of teaching and learning, which implies that artificial intelligence has the potential to address and overcome various obstacles associated with education. Artificial Intelligence has been used by students, such as Chat-GPT, Machine Translation, Grammarly, and many others. According to Ridwan (2017), as cited in Mukhallafi (2020) suggests that Artificial Intelligence has the potential to address numerous challenges in the process of teaching and learning English, such as encompassing information retrieval techniques prevalent in gamification, machine translations, automatic speech recognition, text-to-speech techniques, open digital language dictionaries, intelligent programs for enhancing speaking skills, and writing evaluation. Finally, Artificial Intelligence has many tools that can be used in various things, from games to writing.

Artificial Intelligence (AI) encompasses a wide array of applications, each app designed to address specific challenges and enhance various aspects of learning and communication. In the field of gamification and information retrieval techniques such as Kahoot, Quizzex, etc., engage learners in interactive and dynamic educational experiences. In language-related tasks, Machine Translation tools like Google Translate and Microsoft Translator facilitate seamless communication across different languages. Intelligent programs designed to enhance speaking skills, such as ELSA Speak assist learners in refining their oral communication abilities and enhance speaking English confidently. Finally, the varied applications of Artificial Intelligence highlight the significant influence of technology on education and communication, addressing a wide range of linguistic and educational requirements such as Machine Translation to translate text.

Machine translation, functioning as an automated process, involves utilizing computer software to convert text from one natural language to another Hutchins and Somers (1992). In addition, Carl and Way (2003) said that Machine Translation emerged as an advancement in computer hardware and software designed to generate translated

The Utilization of Artificial Intelligence (AI) Translators to Improve Writing in EFL Classroom

texts of improved quality. Several online machine translation resources are accessible to second language (L2) learners, including Translator Online, Foreign Word, Web Trance, Prompt, and Google Translate (Hampshire & Salvia, 2010). Thus, it can be said that Machine Translation automates language conversion using computer software to produce higher-quality translated texts.

Historically, language learners relied on dictionaries to translate between languages and find the meanings of unfamiliar terms. Still, with the emergence of machine translation, it is clear that translation is no longer simply a skill of human translators (Shahriar, 2023). The integration of Machine Translation has permeated various academic levels, from primary education to tertiary institutions. Consequently, many people are interested in using Machine Translation as a student learning aid. In line with this, Deng and Yu (2022) stated that there is an increasing curiosity about the potential applications of Machine Translation tools to enhance and facilitate students' learning experiences. Thus, machine translation can be used as a tool to facilitate learning.

Technology, especially machine translation, has consistently been noted as a crucial support system for learning English. The significant contribution of machine translation is of great value in the field of education. The effectiveness of implementing Machine Translation depends on language-learning proficiency. Machine Translation has proven to be successful in enhancing students' writing skills. A study conducted by Cancino and Panes (2021) revealed research findings that Google Translate (GT) contributes positively to the development of second language (L2) writing. When learners lacked access to GT, there was a noticeable decrease in the number of words written and a reduction in syntactic complexity and accuracy in written texts compared to those with access to it. Thus, Machine Translation can potentially enhance writing quality, particularly regarding syntactic complexity and accuracy.

Furthermore, the students' attitude toward the use of technology, especially Machine Translation, needs to be discussed. An essential aspect is the analysis of students' perspectives on the utilization of technology, specifically Machine Translation, as these perspectives have an important impact on their involvement, motivation, and acceptance of the technology. Individuals have varying perspectives, and it occurs as a result of differences in thoughts, emotions, and experiences (Wardani et al., 2023). Positive attitudes frequently result in increased effort and prolonged utilization, whereas negative attitudes can lead to opposition or discontinuation. Studying attitudes yields useful insights for enhancing technology integration in language teaching. The

The Utilization of Artificial Intelligence (AI) Translators to Improve Writing in EFL Classroom

students' attitude is shaped by their perceptual curiosity about new technology, especially Machine Translation, which emphasizes the essential role of human behavior in this context. According to Ajzen (1991), attitude refers to the extent to which an individual holds a positive or negative assessment or judgment of the particular behavior in question. In addition, Ajzen and Fishbein (2000) also stated that attitude is when an individual has a general impression of being like or dislike, favor or disfavor, good or bad. It can be said that attitude is the positive or negative evaluation or judgment toward various stimuli objects.

Suppose a learner lacks interest and wants to acquire the target language for communication. In that case, they are likely to have a negative attitude and exhibit a lack of motivation and enthusiasm in the language learning process. Consequently, learners' attitudes are crucial to language acquisition, influencing their overall performance. Students' attitudes encompass their feelings, beliefs, preferences, dislikes, and needs, all of which should be considered. Recognizing and understanding these attitudes is essential, as they significantly impact the effectiveness of language learning endeavors.

The earliest research focused on Machine Translation in writing was done years ago by Chung & Ahn (2022); Escartín et al. (2017); Lee (2020); Wirantaka and Fijannah (2021). A study carried out by Escartín et al. (2017) focused on the effectiveness of Machine Translation as a tool for enhancing writing and its influence on the quality of the resulting content. The study findings suggest that texts produced with the use of machine translation and post-editing still require substantial revisions to achieve an acceptable standard of quality. This implies that although machine translation can be a valuable tool during the writing process, the process of post-editing is still essential to enhance and elevate the overall quality of the produced texts. The results emphasize the significance of a meticulous and comprehensive editing procedure, even when utilizing machine translation technologies, to meet the criteria of acceptability in written material.

Furthermore, research conducted by Lee (2020) focuses on comparing EFL students' writing to Machine Translation output such as Google Translate or Papago Web Translator to facilitate error correction. The result revealed that the analysis of students' writing indicated that machine translation played a beneficial role in reducing lexico-grammatical errors and enhancing student revisions. Additionally, findings from interviews and reflection papers highlighted the potential utility of Machine Translation as a helpful tool for language learning. However, it was emphasized that for Machine Translation to contribute to student learning effectively, teachers must be aware of its limitations and offer sufficient guidance to students during the learning process.

Afterward, a study conducted by Wirantaka and Fijanah (2021) revealed that the findings emphasize the efficacy of employing Google Translate (GT) in students' writing tasks, as educators perceive. The study found that teachers saw multiple benefits of GT, such as its ability to assist students in acquiring knowledge about the English language, improving vocabulary usage, functioning as a tool for checking spelling and pronunciation, and offering solutions for grammatical issues. The research has found four ways that can be employed to effectively utilize GT: pre-editing, post-editing, translating a single word, and utilizing GT only for checking. In summary, the findings indicate that GT might serve as a beneficial tool for students to enhance their writing abilities when utilized proficiently.

Research conducted by Chung and Ahn (2022) focusing on Machine Translation of linguistic features in L2 writing across proficiency levels and text genres revealed that the text analysis of students' writing demonstrated significant enhancements in accuracy through the use of Machine Translation. At the same time, the benefits in terms of syntactic and lexical complexity remained unclear. Another result showed that the advantages and disadvantages of Machine Translation varied based on proficiency levels (high vs. low) and text genres (narrative vs. argumentative). Despite being aware of its limitations, survey responses strongly indicated that students were delighted with Machine Translation and expressed intentions to use it again in the future.

In addition, previous studies about Machine Translation and students' attitudes have also been explored by Agustine and Permatasari (2021); Alhaisoni and Alhaysony (2017); Ardila (2021); Marito and Ashari (2017). Research carried out by Alhaisoni and Alhaysony (2017) focuses on exploring the attitudes of English major students at a Saudi EFL university regarding the utilization of Google Translate. The findings indicated that a significant majority of the participants acknowledged using Google Translate. Over half of the respondents reported using it frequently and consistently. Additionally, the results revealed that students commonly employ GT for various purposes, with a notable frequency in learning vocabulary, writing, reading, and translation. Interestingly, it is unexpected that students reported using GT more often for writing assignments than for translation tasks.

Next, research carried out by Marito and Ashari (2017) the findings indicates that all students have used machine translation. They utilized machine translation for various reasons, such as ensuring the meaning when they doubted their vocabulary mastery. On the other hand, some pupils used it to discover translations, treating machine translation as a dictionary. An unexpected response was using it as a tool for

more practice because these students lacked confidence and effort to enhance their vocabularies, so they relied on machine translation.

Then, a study conducted by Agustine and Permatasari (2021) focused on assessing students' perspectives on integrating machine translation in Japanese language classes. The result revealed that students were dissatisfied, indicating a negative attitude toward implementing machine translation. Nevertheless, machine translation is recognized as a tool that can help to complete the translation process. Still, the translation results do not align with the context of the target language.

Moreover, research conducted by Ardila (2021) focuses on investigating the students' perspectives on using machine translation in the English subject within the Islamic Education Department. The results showed that students perceive machine translation as helpful for translating complex words, sentences, and paragraphs between English and Bahasa Indonesia. Despite the various issues faced by the learners, mainly related to translation quality, they express confidence in addressing these problems effectively. Furthermore, the study indicates that the positive impacts of using machine translation outweigh the negative impacts, considering several considerations, such as the issue of dependence and laziness.

In a nutshell, the previous studies discussed above focused on using Machine Translation in language learning, writing, and attitudes or perceptions towards Machine Translation. They examined the impact of Machine Translation on various linguistic features, error correction, communication effectiveness, post-editing, and students' perceptions in multiple classes, such as Japanese language classes, English major students at Aljuf University in Saudi Arabia, English students in Islamic Education Department, and university students in University of Kepulauan Riau.

Based on these studies related to machine translation in writing and students' perceptions above, it can be said that there are still gaps for future research, such as further exploration of the use of machine translation in writing quality for EFL learners in Indonesia. Thus, this study aims to reveal the utilization of Machine Translation in improving students' writing quality in EFL Classrooms. The study proposed the following research questions: (1) What are the students' attitudes towards the utilization of Machine Translation to improve students' writing quality in EFL classrooms? (2) Is there any significant difference in writing quality between students who have positive and negative attitudes toward the use of Machine Translation?

METHOD

Research Design

The research employed quantitative research methodology. Based on Sugiyono (2011), quantitative methods can be defined as research approaches grounded in positivist philosophy. These methods are employed to investigate a specific population or sample, involving research instruments for data collection and quantitative data analysis or statistics.

This study aims to collect, analyze, and discuss numerical data to understand the attitudes of EFL students toward using Machine Translation to improve their writing quality and examine the significant difference in writing quality between students who have positive and negative attitudes towards the use of Machine Translation.

The Settings and Participants

This study was conducted in one of the state universities in Surabaya. The participants were 40 EFL students, comprising both males ($n = 16$) and females ($n = 24$). These participants were collected by random sampling. According to Blumberg et al. (2014), simple random sampling means every item or individual in the population has an equal probability of being chosen. It can be assumed that each person within the target population has an equal opportunity to be included in the sample. The participants involved in this research were EFL students from various majors who learned English during the first semester of the academic year 2023–2024.

Data Collection Technique and Research Instrument

This study used a questionnaire as the instrument for the first research question and students' writing scores for the second research question to collect the data.

The data for the first research question were collected via an online questionnaire from November until December 2023. The questionnaire was translated into the participants' native language (Bahasa Indonesia) to ensure their understanding.

The questionnaire was adapted from Deng and Yu (2022) and Liu et al. (2022). It consisted of 15 questions about EFL pupil's attitudes toward the use of Machine Translation in improving their writing quality that were responded to by the participants using a Likert scale. Questions number 1-10 are positively worded items while 11-15 are presented in negative statements, so the numerical score is structured with options ranging from strongly agree (5), agree (4), neutral (3), disagree (2), to strongly disagree (1). The participants' responses were classified into two different degrees of attitudes on the scale: negative (1.00 – 2.50) and positive (2.60 - 5.00).

The researchers checked the validity and reliability of the questionnaire. The validity test aims to ascertain the accuracy and effectiveness of the questionnaire researchers employ in measuring and collecting research data from respondents. The validity test score indicated that Sig. (2-tailed) = 0.000 – 0.010 < 0.05. This value indicated that the 15 statements were significant ranging from 0.000 – 0.010. Therefore, all items of the questionnaire statement were valid.

In addition, the reliability of the instrument was checked to determine the level of consistency of the questionnaire used so the questionnaire can be relied on even though the research is carried out repeatedly with the same questionnaire at different times. As shown in Table 1, Cronbach's alpha was .891, indicating a high level of internal consistency. Therefore, the questionnaire was deemed suitable for measuring EFL learners' attitudes toward the utilization of Machine Translation in improving their writing quality.

Table 1. Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .891 | 15 |

However, the data for the second research question were collected from students' writing scores to determine whether there is a significant difference in writing quality between students who have positive and negative attitudes towards the use of Machine Translation.

Data Analysis

The quantitative data from the first research question was analyzed using descriptive statistics via IBM SPSS statistics 25. This method is appropriate for investigating a variable within a specific population and acquiring relevant data about it (Baker, 2017; Siedlecki, 2020). Selecting an appropriate research methodology is essential for examining a variable within a specific population and collecting appropriate data.

In addition, the quantitative data from the second research question was analyzed using an independent sample t-test using IBM SPSS statistics 25 to determine whether there is a significant difference in writing quality between students who have positive and negative attitudes towards the use of Machine Translation.

RESULT AND DISCUSSION

EFL students' attitude towards the utilization of Machine Translation to improve writing quality

The purpose of this section is to answer the first research question. The majority of the students have positive attitudes towards the utilization of machine translation to improve their writing quality. However, 11 students have negative attitudes towards the utilization of machine translation to improve their writing quality. The results of the data analysis can be seen in Table 2. It shows that most EFL students responded with a positive attitude to 15 statements, with the means ranging from 4.27 - 2.55. The description can be seen as follows:

Table 2. Descriptive Statistics

| | Mean | Std. Deviation |
|---|------|----------------|
| 1. I indicated that machine translation acted as a language learning resource especially in writing English | 3.93 | 1.071 |
| 2. Machine translation gains knowledge, including vocabulary, grammar, pronunciation, and spelling | 4.20 | .911 |
| 3. Machine translation boost my confidence in writing English | 3.95 | .932 |
| 4. Machine translation improves my translation quality in English | 3.90 | .841 |
| 5. Machine translation improves my writing quality in English | 3.83 | .844 |
| 6. Machine translation is considered my assistant especially in writing English | 4.05 | .876 |
| 7. Machine translation is easy to use | 4.20 | .911 |
| 8. Machine translation is efficient for my English writing | 3.93 | .971 |
| 9. Machine translation is reliable | 3.78 | .974 |
| 10. Machine translation has proven to be more effective and accurate for word selection than my lexical choices from the dictionary | 3.63 | .925 |
| 11. Machine Translation outputs to be unreliable and inaccurate in terms of idioms and phrases, sentence structure, grammar, certain writing styles | 3.30 | 1.159 |
| 12. I become over-dependent on the Machine translation output | 3.45 | 1.260 |
| 13. become over dependent on the Machine translation without post-editing my English writing | 2.95 | 1.260 |
| 14. Machine translation develops bad habits and become less motivated and enthusiastic to write in English | 3.18 | 1.259 |
| 15. Machine translation indicates cheating in writing English | 2.55 | 1.239 |

Most EFL students showed positive attitudes towards utilizing Machine Translation to improve writing quality. From statement numbers 1-10, positively

worded items were reported to have a mean range of 4.20 – 3.63. This means that students have a positive attitude towards utilizing machine translation to improve writing quality. The highest mean is statement number 2, “Machine translation gain knowledge, including vocabulary, grammar, pronunciation, and spelling” the mean of this statement is (M = 4.20), while the standard deviation is (SD = 0.911). Subsequently, the second one is statement number 7, “Machine translation is easy to use” (M = 4.20), and the standard deviation is (SD = 0.911). Afterward, statement number 6, “Machine Translation considered as my assistant especially writing English,” has the mean (M = 4.05), and the standard deviation is (SD = 0.876). These findings are in line with the previous study carried out by Alhaisoni & Alhaysony (2017) and (Ardila, 2021) that the pupil showed a positive attitude toward the utilization of Machine Translation.

The students agreed with the statements that machine translation gains knowledge, including vocabulary, grammar, pronunciation, and spelling. The agreement indicates that the students perceive Machine Translation as a beneficial tool for enhancing and advancing their language skills in several aspects. The recognition of Machine Translation's influence on vocabulary suggests that students perceive it as beneficial for enhancing their vocabulary diversity. Moreover, acknowledging its impact on grammar, pronunciation, and spelling implies that students perceive Machine Translation as a comprehensive tool for enhancing their language proficiency. This positive attitude towards machine translation corresponds with the belief that students perceive technology, particularly Machine Translation, as a valuable tool in their language acquisition process, leading to a comprehensive improvement in their language skills.

Furthermore, pupils agreed that Machine translation is easy to use and is considered an assistant, especially in writing English (Chompurach, 2021). The students also agree with the statement Machine translation improves writing quality in English and Machine translation boosts my confidence in writing English (Deng & Yu, 2022; Xu, 2020). The student's acceptance of these claims indicates a positive view of Machine Translation as a valuable tool for improving the quality of their written English and building their self-confidence in the writing process. In addition, students also showed that they had positive attitudes toward translation acting as a language learning resource, especially writing English (Deng & Yu, 2022; Rowe, 2022). Moreover, learners also have a positive attitude towards Machine translation, which improves translation quality in English (Deng & Yu, 2022), Machine translation is efficient for English writing (Chung & Ahn, 2022), Machine translation is reliable (Chompurach, 2021), and Machine

translation has proven to be more effective and accurate for word selection than lexical choices from the dictionary (Lee, 2020). These results demonstrate the increasing acceptance and perceived advantages of machine translation as a helpful tool in the development of writing and learning English.

However, statements 11 - 15 reported a mean range of 3.45 - 2.55. It means that the students agreed with the negative statement. The lowest mean is shown in statement number 15, "Machine Translation indicates as cheating in writing English" (M = 2.55) and standard deviation (SD = 1.239). It can be said that some students agreed with the following statements: Machine translation output is not reliable and inaccurate, issue of dependence, dependence without post-editing, and developing bad habits and indicated as cheating.

The findings also showed that EFL students agreed with the negative statements about being over-dependent on machine translation without post-editing in English writing, and machine translation indicated cheating in writing English. This means some students have a negative attitude toward using machine translation to improve their writing. This is in line with the previous study conducted by (Deng & Yu, 2022; Rowe, 2022). The EFL students' agreement with negative remarks regarding excessive reliance on Machine Translation in English writing indicates their acknowledgment of the possible disadvantages associated with an overdependence on this technology, particularly when used without post-editing. A concern is that depending completely on machine translation without specific post-editing may result in mistakes, awkward wording, or a lack of nuance in their written English, such as idiomatic expressions, the cultural context of the language, etc. Likewise, agreeing with the statement that Machine Translation is considered cheating in English writing indicates that students know the ethical implications related to the use of Machine Translation. They may have concerns about the perception of utilizing machine translation systems as a type of academic dishonesty, potentially due to the risk of affecting the authenticity and originality of their writing.

In summary, most students agreed with the positive and negative statements about using Machine Translation to improve writing quality. This shows that they have a positive and negative attitude toward using Machine Translation to enhance the quality of writing.

Significant difference in writing quality between students who have positive and negative attitudes towards the use of Machine Translation

The first research question found that EFL students have positive (n = 29) and negative (n = 11) attitudes. Although the results show that most students have a positive attitude toward using Machine Translation to improve writing, few have a negative attitude.

An independent-sample t-test is a statistical procedure employed to determine whether a significant difference exists between the means of two independent groups. An independent-samples t-test was conducted to compare the writing scores of the EFL students who have positive and negative attitudes toward using Machine Translation. The null hypothesis (H0) in this test suggests no significant difference in the quality of writing between the two groups. Still, the alternative hypothesis (H1) proposes that there is a significant difference. The result is presented in Table 3.

Table 3. Independent-Samples t-test

| | Attitude | N | Sig. (2-tailed) |
|---------------|-----------------|----------|------------------------|
| Writing Score | Positive | 29 | .143 |
| | Negative | 11 | |

The data presented in Table 3, with a reported p-value (Sig. 2-tailed) of 0.143, suggests that the statistical significance is above the standard significance level of 0.05. A p-value higher than 0.05 often indicates insufficient proof to reject the null hypothesis (H0) in the statistical hypothesis test. Within this context, the null hypothesis (H0) is expected to state that there is no significant difference in writing quality between English as a Foreign Language (EFL) students who show positive and negative attitudes towards the utilization of Machine Translation. Thus, a p-value of 0.143 would not reject the null hypothesis. According to the statistical study, there is no significant difference in writing quality between those with positive attitudes towards using Machine Translation and those with negative attitudes. Based on the data and statistical test undertaken, the finding implies that any differences in writing quality between the two groups are not statistically significant.

In the specific setting analyzed, the study indicates that the students' attitudes toward machine translation did not play a significant role in determining the overall quality of what they wrote. This highlights the need to acquire a comprehensive understanding that aids in achieving targeted language learning results within the framework of technological integration. It can be said that whether the EFL students perceive positive and negative attitudes towards using machine translation in

The Utilization of Artificial Intelligence (AI) Translators to Improve Writing in EFL Classroom improving their writing, there is no significant difference between them; their writing is equally good. The statement implies that competence in writing is not only determined by utilizing Machine Translation technology. It suggests that individuals, despite their utilization of machine translation tools, have the ability to create writing of great quality. Therefore, whether EFL students utilize Machine Translation or not, they can write well.

CONCLUSION

Based on the research questions, two key findings can be highlighted from the results of this study. First, the EFL learners mostly have positive attitudes toward the utilization of Machine Translation to improve writing quality since it is easy to use, can gain knowledge, improve writing and translation quality, boost their confidence in writing English, and many others. However, they also agreed with the negative statement that Machine Translation is considered cheating. It means that they believe that using machine translation in writing is cheating. The last point deals with comparing the writing quality between the EFL students who have positive and negative attitudes towards the use of Machine Translation, and this recent study found no significant difference between them.

Through this study, the students can be wise in responding to the use of AI in education, especially in writing in English using machine translation. The limitation of the current study is that the limited sample size of this study could limit the generalization of the results. Furthermore, students' perception of utilizing machine translation may evolve as time goes on. In future studies, a large sample size will be utilized to determine whether there's a statistically significant difference among the students. The use of mix-method can be conducted in future research to get further information, such as why EFL students agree or disagree with the statement in the questionnaire, and gain learners' voices related to the factors that influenced their writing ability. The purpose of these suggestions is to improve the robustness and depth of the findings in future studies on the attitudes and perceptions of EFL students toward the utilization of machine translation.

REFERENCES

- Agustine, I., & Permatasari, K. M. (2021). Students' attitude on the use of machine translation in Japanese language class. *Al-Ishlah: Jurnal Pendidikan*, 13(3), 2557–2564.
- Ajzen, I. (1991). The Theory of planned behavior. *Organizational Behavior and Human Decision Processes*.
- Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitude-behavior relation: Reasoned and automatic processes. *European Review of Social Psychology*, 11(1), 1–33.
- Alhaisoni, E., & Alhaysony, M. (2017). An investigation of Saudi EFL university students' attitudes towards the use of Google Translate. *International Journal of English Language Education*, 5(1), 72–82.
- Ardila, I. (2021). Perception of using machine translation in English subject of Islamic education department students. *SKETCH JOURNAL: Journal of English Teaching, Literature and Linguistics*, 1(1), 23–32.
- Baker, C. (2017). Quantitative research designs: Experimental, quasi-experimental, and descriptive. *Evidence-Based Practice: An Integrative Approach to Research, Administration, and Practice*, 2, 155–183.
- Blumberg, B., Cooper, D., & Schindler, P. (2014). *EBOOK: Business research methods*. McGraw Hill.
- Cancino, M., & Panes, J. (2021). The impact of Google Translate on L2 writing quality measures: Evidence from Chilean EFL high school learners. *System*, 98, 102464.
- Carl, M., & Way, A. (2003). *Recent advances in example-based machine translation*.
- Chompurach, W. (2021). "Please Let Me Use Google Translate": Thai EFL Students' Behavior and Attitudes toward Google Translate Use in English Writing. *English Language Teaching*, 14(12), 23–35.
- Chung, E. S., & Ahn, S. (2022). The effect of using machine translation on linguistic features in L2 writing across proficiency levels and text genres. *Computer Assisted Language Learning*, 35(9), 2239–2264.
<https://doi.org/10.1080/09588221.2020.1871029>
- Deng, X., & Yu, Z. (2022). A Systematic Review of Machine-Translation-Assisted Language Learning for Sustainable Education. *Sustainability (Switzerland)*, 14(13).
<https://doi.org/10.3390/su14137598>
- Escartín, C. P., O'Brien, S., Goulet, M.-J., & Simard, M. (2017). Machine translation as an academic writing aid for medical practitioners. *Proceedings of Machine Translation Summit XVI: Research Track*, 254–267.
- Hampshire, S., & Salvia, C. P. (2010). Translation and the Internet: evaluating the quality of free online machine translators. *Quaderns: Revista de Traducció*, 197–209.
- Hutchins, W. J., & Somers, H. L. (1992). *An Introduction to Machine Translation*. Academic Press Limited, London.

- Lee, S. M. (2020). The impact of using machine translation on EFL students' writing. *Computer Assisted Language Learning*, 33(3), 157-175.
<https://doi.org/10.1080/09588221.2018.1553186>
- Liu, K., Kwok, H. L., Liu, J., & Cheung, A. K. F. (2022). Sustainability and Influence of Machine Translation: Perceptions and Attitudes of Translation Instructors and Learners in Hong Kong. *Sustainability (Switzerland)*, 14(11).
<https://doi.org/10.3390/su14116399>
- Marito, S., & Ashari, E. (2017). EFL students' perception about machine translation. *Jurnal Dimensi*, 6(2).
- Mukhallafi, T. R. A. (2020). Using artificial intelligence for developing English language teaching/learning: an analytical study from university students' perspective. *International Journal of English Linguistics*, 10(6), 40.
- Rowe, L. W. (2022). Google Translate and biliterate composing: Second-graders' use of digital translation tools to support bilingual writing. *Tesol Quarterly*, 56(3), 883-906.
- Shahriar, A. (2023). The effectiveness of machine translation using "Google Translate" in English language learning in Bangladesh. *Pedagogy: Journal of English Language Teaching*, 11(1), 75-88.
- Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist*, 34(1), 8-12.
- Sugiyono. (2011). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Afabeta.
- Wardani, H. K., Nisa, L. E., & Maciąg, A. (2023). EFL students' perceptions towards lecturer's corrective feedback in speaking class. *English Education: English Journal for Teaching and Learning*, 11(02), 133-147.
- Wirantaka, A., & Fijanah, M. S. (2021). Effective use of Google Translate in writing. *International Conference on Sustainable Innovation Track Humanities Education and Social Sciences (ICSIHESS 2021)*, 15-23.
- Xu, J. (2020). Machine translation for editing compositions in a Chinese language class: Task design and student beliefs. *Journal of Technology & Chinese Language Teaching*, 11(1).