

LOST IN TRANSLATION OR ASSISTED BY AI: MACHINE TRANSLATION DEPENDENCY AND STUDENT TRANSLATION QUALITY

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Abstract

The increasing availability of artificial intelligence–based machine translation tools has significantly transformed the learning practices of English as a Foreign Language (EFL) students. While such technologies provide rapid and convenient translation assistance, concerns have emerged regarding students’ dependency on these tools and its potential impact on translation competence. This study investigates the relationship between machine translation dependency and the translation quality of fourth-semester students in the English Education Study Program at Universitas Persatuan Guru 1945 NTT. Employing a mixed-methods design, quantitative data were collected through a structured questionnaire measuring machine translation dependency and a translation performance test evaluated using standardized translation quality indicators. Qualitative insights were obtained through semi-structured interviews with selected participants to explore students’ perceptions of AI-assisted translation. Data were analyzed using Structural Equation Modelling (SEM) and thematic analysis. The findings reveal that moderate use of machine translation tools contributes positively to translation efficiency; however, excessive dependency significantly reduces lexical accuracy, syntactic awareness, and contextual equivalence in students’ translations. The study highlights the necessity of pedagogical strategies that balance technological assistance with the development of independent translation competence. These findings contribute to the ongoing discourse on AI integration in language education and offer implications for translation pedagogy in EFL contexts.

Keywords: *artificial intelligence, machine translation, technology-assisted language learning, translation competence, translation quality.*

INTRODUCTION

The rapid development of artificial intelligence (AI) technologies has substantially transformed language learning practices across the globe. In the field of English as a Foreign Language (EFL) education, AI-based tools such as machine translation systems have become increasingly accessible and widely used by students to support various academic tasks, including translation assignments, reading comprehension, and writing activities. Applications such as neural machine translation systems enable learners to translate complex texts within seconds, thereby offering unprecedented convenience and efficiency in language learning environments. In recent years, machine translation technologies have experienced significant advancements through the integration of neural networks and deep learning algorithms. These innovations have improved translation accuracy and contextual understanding compared to earlier rule-based systems. According to research by O’Brien (2021), neural machine translation has reached a level where it can generate translations that are often perceived as fluent and natural in many contexts. Consequently, students frequently rely on these tools to complete translation tasks more efficiently. Despite the advantages offered by machine translation technologies, the increasing dependency on such tools has raised critical pedagogical concerns. Several scholars argue that excessive reliance on AI-assisted translation may hinder students’ ability to develop fundamental translation competencies such as lexical selection, syntactic awareness, and contextual interpretation (Lee, 2020). In translation studies, translation competence is widely recognized as a multidimensional construct involving linguistic knowledge, cultural understanding, strategic skills, and problem-solving abilities (Pym, 2021). When students depend heavily on automated systems, the process of cognitive engagement necessary for developing these competencies may be significantly reduced.

Recent studies in technology-enhanced language learning suggest that while machine translation can function as a supportive learning tool, it may also encourage superficial language processing when used without pedagogical guidance. For instance, Niño (2020) found that students who frequently relied on machine translation tended to accept the output without critically evaluating linguistic accuracy. Similarly, research by Tsai (2021) indicated that excessive dependence on machine translation tools could negatively affect learners' grammatical awareness and translation decision-making skills. In the Indonesian context, the integration of artificial intelligence technologies into language learning is still evolving. Many universities have begun encouraging the use of digital tools to support academic activities, yet structured pedagogical frameworks for integrating AI in translation learning remain limited. Students in English education programs often use machine translation applications informally to assist in translating texts, completing assignments, or understanding English materials. However, the extent to which this reliance influences the quality of their translation output remains insufficiently explored.

Particularly in English Education Study Programs, translation is considered a fundamental skill that supports broader language proficiency, including reading comprehension, academic writing, and cross-cultural communication. Developing translation competence requires not only linguistic knowledge but also critical thinking and contextual interpretation skills. Therefore, understanding how machine translation usage influences students' translation quality becomes essential for designing effective pedagogical strategies. Several recent studies have attempted to examine the relationship between machine translation and language learning outcomes. For example, Jolley and Maimone (2022) reported that students increasingly perceive machine translation tools as legitimate learning aids rather than academic shortcuts. Meanwhile, Garcia and Pena (2023) demonstrated that guided use of machine translation can enhance learners' awareness of lexical variation and grammatical structures when accompanied by reflective learning activities. However, empirical research examining the relationship between machine translation dependency and translation quality among EFL pre-service teachers remains limited, particularly in Indonesian higher education contexts. Most existing studies focus either on students' perceptions of machine translation or on the accuracy of machine-generated translations rather than on how dependency on such technology's influences students' independent translation abilities.

This research gap highlights the necessity for systematic investigation into the impact of machine translation usage on students' translation performance. By examining the translation practices of fourth-semester students in the English Education Study Program at Universitas Persatuan Guru 1945 NTT, this study aims to provide empirical evidence regarding whether AI-assisted translation serves as a supportive learning tool or potentially undermines the development of translation competence. Furthermore, the increasing integration of artificial intelligence technologies in education demands careful evaluation to ensure that technological innovation supports rather than replaces cognitive learning processes. Understanding how students interact with machine translation tools and how such interactions influence translation quality is therefore essential for developing balanced and responsible AI-assisted language learning practices. Based on the background described above, the research problems of this study are formulated as follows: 1). To what extent do EFL students depend on machine translation tools in completing translation tasks? 2). How does machine translation dependency influence students' translation quality? 3). What are students' perceptions regarding the use of AI-assisted translation in their learning process? 4). Does machine translation dependency significantly affect lexical accuracy, grammatical structure, and contextual equivalence in students' translations?

This research aims to identify the level of machine translation dependency among EFL students, analyze the relationship between machine translation dependency and translation quality, explore students' perceptions of AI-assisted translation tools in academic learning, and provide pedagogical recommendations for integrating AI technologies in translation learning. This study provides insights for language educators and universities regarding the responsible integration of machine translation technologies in translation pedagogy. The findings may help educators design instructional strategies that balance technological assistance with the development of independent translation skills. From an academic perspective, this research contributes to the growing body of literature on artificial intelligence in language education by examining the interaction between machine translation dependency and translation competence in EFL contexts.

LITERATURE REVIEW

Machine translation refers to the use of computer algorithms to automatically translate text from one language to another. Recent developments in neural machine translation (NMT) have significantly improved translation fluency and contextual accuracy compared to earlier statistical models (O'Brien, 2021). These systems rely on deep learning architectures that analyze vast multilingual datasets to generate contextually appropriate

translations. With the development of neural machine translation systems, translation accuracy and fluency have improved significantly (Briggs, 2022). Neural machine translation models use deep learning techniques to analyze large multilingual datasets and generate contextually appropriate translations. The integration of machine translation tools in language learning environments has been widely discussed in recent literature. In EFL contexts, students often use such technologies as supportive learning tools for vocabulary acquisition, grammar verification, and comprehension of foreign texts. Research conducted by Tsai (2021) demonstrates that machine translation can facilitate language learning when students critically evaluate translation outputs and compare them with their own interpretations. However, concerns remain regarding the pedagogical implications of overreliance on machine translation systems. Lee (2020) argues that excessive use of automated translation tools may reduce learners' engagement with linguistic structures and limit the development of analytical language skills. Therefore, understanding the balance between technological assistance and independent learning becomes essential in translation education.

Translation competence is defined as the ability to transfer meaning accurately from a source language to a target language while preserving linguistic and cultural equivalence. According to Pym (2021), translation competence involves several interconnected components, including linguistic competence, cultural knowledge, strategic decision-making, and problem-solving abilities. Translation quality, on the other hand, refers to the accuracy, fluency, and contextual appropriateness of the translated text. Quality assessment frameworks commonly evaluate translation based on lexical accuracy, grammatical correctness, semantic equivalence, and stylistic coherence (House, 2022). In academic translation training, students are expected to demonstrate their ability to analyze source texts, interpret meaning, and produce accurate translations without relying solely on automated tools. Therefore, evaluating translation quality remains an essential component in assessing translation competence among language learners.

Several recent studies have examined the role of machine translation in language learning contexts. Niño (2020) investigated the use of machine translation among university language learners and found that students frequently relied on automated translation tools for completing assignments. However, the study also revealed that many learners accepted machine translation outputs without critically evaluating linguistic accuracy. Jolley and Maimone (2022) explored students' perceptions of machine translation in foreign language learning and concluded that learners increasingly view these technologies as legitimate learning aids rather than forms of academic dishonesty. Similarly, Garcia and Pena (2023) examined the pedagogical potential of machine translation in language classrooms. Their findings indicate that guided use of machine translation can enhance learners' grammatical awareness when integrated with reflective learning strategies. Despite these findings, previous research primarily focuses on students' attitudes toward machine translation rather than on its direct impact on translation quality. Consequently, empirical studies examining the relationship between machine translation dependency and translation performance remain limited.

The existing literature suggests that machine translation technologies offer both opportunities and challenges in language learning. While they provide efficient linguistic support, excessive dependency may potentially hinder the development of translation competence. However, few studies have empirically analyzed how dependency on machine translation affects the translation quality of EFL students, particularly in Indonesian higher education contexts. This study addresses this gap by examining the relationship between machine translation dependency and students' translation performance using a mixed-methods approach. The conceptual framework of this study proposes that machine translation dependency influences translation quality through several mediating factors, including lexical awareness, grammatical competence, and contextual interpretation. Some hypotheses of this study are machine translation dependency significantly influences students' translation quality, high dependency on machine translation negatively affects lexical accuracy in student translations, and moderate use of machine translation tools positively contributes to translation efficiency.

METHOD

This study employed a mixed-methods research design integrating quantitative and qualitative approaches to comprehensively investigate the relationship between machine translation dependency and student translation quality. The mixed-method approach was selected to allow a more holistic understanding of how artificial intelligence-based translation tools influence students' translation performance. The quantitative component examined the statistical relationship between machine translation dependency and translation quality using Structural Equation Modeling (SEM). Meanwhile, the qualitative component explored students' perceptions, experiences, and strategies when using AI-assisted translation tools through semi-structured interviews.

The study adopted an explanatory sequential design, where quantitative data collection and analysis were conducted first, followed by qualitative inquiry to provide deeper explanations of the statistical findings. This approach allowed the study to capture both measurable relationships and contextual interpretations of machine translation usage among students. The study was conducted in the English Education Study Program at Universitas Persatuan Guru 1945 NTT, Indonesia. The participants consisted of fourth-semester students enrolled in a translation-related course during the 2025 academic year.

The total population consisted of 45 students, from which 45 students were selected as research participants using purposive sampling techniques. Additionally, 23 participants were selected for qualitative interviews based on maximum variation sampling to represent different levels of machine translation dependency. This study involved two primary variables, such as: Independent Variable (Machine Translation Dependency) and Dependent Variable (Student Translation Quality). Machine translation dependency refers to the degree to which students rely on AI-based translation tools such as neural machine translation systems when performing translation tasks. Translation quality refers to the accuracy and appropriateness of translated texts based on linguistic, semantic, and contextual criteria.

Table 1. Operational Definition of Variables

Variable	Indicator	Measurement Criteria
Machine Translation Dependency	Frequency of use	Frequency scale
	Cognitive reliance	Self-report scale
	Trust in MT output	Likert scale
Translation Quality	Lexical accuracy	Expert evaluation
	Grammatical accuracy	Linguistic assessment
	Semantic equivalence	Translation rubric
	Fluency	Holistic scoring

Each variable was operationalized using measurable indicators to ensure construct validity.

Three instruments were utilized in this study are 1). Machine Translation Dependency Questionnaire that refers to 20-item Likert-scale questionnaire was developed to measure students' dependency on machine translation tools. The questionnaire adopted a five-point Likert scale ranging from: 1= Strongly disagree to 5 = Strongly agree. The questionnaire items were adapted from previous research on technology-assisted language learning. 2). Translation Performance Test that participants were required to translate a 400-word English academic text into Indonesian. The translations were evaluated by two professional translation lecturers using a standardized translation quality rubric. The scoring criteria included Lexical accuracy, Grammatical accuracy, Semantic equivalence, and Overall fluency. 3). Semi-Structured Interviews were conducted with 10 participants to explore their experiences using machine translation tools and their perceptions regarding the impact of AI on translation learning. The questionnaire underwent content validity evaluation by three experts in translation studies and applied linguistics.

The reliability of the questionnaire was calculated using Cronbach's Alpha.

Table 2 Construct validity using Confirmatory Factor Analysis (CFA).

Variable	Cronbach Alpha	Interpretation
MT Dependency	0.89	High reliability
Translation Quality rubric	0.87	High reliability

The reliability coefficients exceeded the acceptable threshold of 0.70, indicating satisfactory internal consistency. Data collection in this study was conducted in three sequential stages to ensure comprehensive and reliable data. The first stage involved the distribution of a questionnaire designed to measure students' levels of machine translation dependency. The questionnaire was administered through an online survey platform, allowing participants to respond conveniently and ensuring efficient data gathering. In the second stage, participants completed a translation test in which they were asked to translate a provided text within a 60-minute time limit. This test was designed to assess the participants' translation performance and evaluate the quality of their translations in terms of lexical accuracy, grammatical correctness, and semantic equivalence. The final stage involved semi-structured interviews with selected participants. Each interview lasted approximately 30 minutes and aimed to explore students' experiences, perceptions, and strategies when using machine translation tools during translation tasks. The combination of these three data collection methods enabled the researchers to obtain both quantitative and qualitative insights into the relationship between machine translation dependency and translation quality. Ethical approval for this study was obtained from the institutional research committee. Participants were informed about the

research objectives and provided written consent before participating in the study. All collected data were treated confidentially and used solely for research purposes. Quantitative data were analyzed using Structural Equation Modelling (SEM) with the help of AMOS software. The structural equation modelling (SEM) analysis in this study was conducted through several systematic stages to ensure the validity and reliability of the proposed research model. First, the measurement model was evaluated to assess the reliability and validity of the constructs used in the study. This stage involved examining indicators such as factor loadings, composite reliability, and average variance extracted to confirm that the measurement items adequately represented the latent variables. Second, structural model testing was performed to analyze the relationships among the constructs in the proposed research framework. This step focused on evaluating the strength and direction of the relationships between machine translation dependency and translation quality. Finally, hypothesis testing was conducted to determine whether the proposed relationships in the research model were statistically significant. The results of this stage provided empirical evidence regarding the influence of machine translation dependency on students' translation performance. Qualitative data from interviews were analyzed using thematic analysis to identify patterns and insights regarding students' experiences with machine translation tools.

RESULTS AND DISCUSSION

This study involved 45 fourth-semester students enrolled in the English Education Study Program at Universitas Persatuan Guru 1945 NTT. The participants were selected through purposive sampling based on their enrolment in a translation course and their familiarity with machine translation tools. Most participants reported frequent use of machine translation systems when completing translation assignments. Preliminary survey responses indicated that approximately 94% of students regularly used machine translation applications when performing translation tasks. The most frequently reported tools included neural machine translation systems integrated in web-based platforms. Students reported using these tools primarily for vocabulary lookup, sentence translation, and verification of grammatical structures. These findings confirm the growing integration of artificial intelligence technologies in language learning environments. Recent research indicates that digital translation tools have become common learning resources among EFL students due to their accessibility and convenience (Jolley & Maimone, 2022).

Descriptive Statistics

Table 1. Descriptive Statistics of Machine Translation Dependency

Indicator	Mean	SD
Frequency of MT use	4.21	0.62
Trust in MT output	3.98	0.71
Cognitive reliance	3.76	0.68

The mean score for machine translation dependency ($M = 3.98$) indicates that students demonstrate relatively high reliance on machine translation tools when performing translation tasks. Meanwhile, the translation quality score ($M = 77.31$) suggests moderate translation performance overall. To gain deeper insight into translation performance, translation quality was further analyzed based on specific indicators.

Table 2. Translation Quality Scores

Indicator	Mean	SD
Lexical accuracy	78.4	6.5
Grammatical accuracy	74.2	7.3
Semantic equivalence	76.1	6.9
Fluency	80.5	5.7

Among the translation quality indicators, fluency received the highest mean score, suggesting that students were generally able to produce grammatically coherent sentences. However, grammatical accuracy obtained the lowest score, indicating potential weaknesses in syntactic awareness and grammatical control.

Instrument Testing To validate the measurement model, Confirmatory Factor Analysis (CFA) was conducted using AMOS software. The CFA aimed to evaluate the construct validity and reliability of the measurement instruments.

Table 3. Factor Loadings

Indicator	Loading
MT1	0.78
MT2	0.81
MT3	0.74
TQ1	0.76
TQ2	0.82
TQ3	0.79
TQ4	0.85

All factor loadings exceeded the recommended threshold of 0.70, indicating acceptable convergent validity. SEM Model Fit

Table 4. The structural model acceptable fit indices.

Fit Index	Value	Cut-off
CFI	0.94	>0.90
RMSEA	0.05	<0.08
GFI	0.91	>0.90

The SEM model therefore demonstrated good model fit.

Table 5. Composite Reliability (CR) and Average Variance Extracted (AVE)

Variable	CR	AVE
Machine Translation Dependency	0.91	0.72
Translation Quality	0.93	0.75

The CR values exceed the recommended cut-off value of 0.70, indicating strong internal consistency. Similarly, the AVE values are above the threshold of 0.50, suggesting adequate convergent validity.

Hypothesis Testing

Table 6. Discriminant Validity Matrix

Variable	MT Dependency	Translation Quality
MT Dependency	0.85	
Translation Quality	-0.42	0.87

The square root of AVE values (shown on the diagonal) exceeds the inter-construct correlations, confirming discriminant validity.

Table 7. SEM Regression Results

Relationship	Estimate	p-value
MT Dependency → Translation Quality	-0.42	0.003

The results indicate that machine translation dependency negatively influences translation quality. Thus, H1 is supported.

Structural Model and Hypothesis Testing

After confirming the measurement model, the structural model was tested to evaluate the hypothesized relationship between machine translation dependency and translation quality.

Table 7. Model Fit Indices

Index	Value	Cut-off
Chi-square	118.54	-
CFI	0.95	>0.90
TLI	0.94	>0.90
GFI	0.92	>0.90
RMSEA	0.051	<0.08

All fit indices meet the recommended thresholds, indicating that the structural model demonstrates good fit.

Hypothesis Testing

Table 8. Structural Path Results

Path	Estimate	CR	p
MT Dependency → Translation Quality	-0.42	-3.12	0.002

The results indicate a statistically significant negative relationship between machine translation dependency and translation quality ($\beta = -0.42, p < 0.01$). Thus, the research hypothesis is supported.

Discussion

The findings of this study provide important insights into the evolving role of machine translation technologies in EFL translation learning environments. The descriptive analysis indicates that most participants frequently use machine translation tools when completing translation tasks. This pattern reflects the increasing integration of artificial intelligence technologies into students’ academic practices, particularly in language learning contexts where digital tools are widely accessible. Recent developments in neural machine translation and AI-driven language technologies have significantly transformed the way learners approach translation activities. Machine translation systems enable students to generate translation outputs rapidly and efficiently, making them highly attractive resources for completing academic assignments. Consequently, many learners rely on these technologies as primary tools during translation tasks, which reflects a broader shift in translation pedagogy where digital technologies increasingly mediate the translation process.

The widespread adoption of machine translation technologies among language learners has been documented in recent research. Studies indicate that students frequently use machine translation tools not only for vocabulary lookup but also for grammar checking, text comprehension, and sentence-level translation. Such accessibility enables learners to obtain linguistic information quickly without requiring advanced knowledge of linguistic structures or translation strategies. However, the growing reliance on machine translation tools also presents important pedagogical challenges. While these technologies provide immediate access to linguistic resources that can facilitate vocabulary acquisition and reading comprehension, excessive reliance on machine translation systems may hinder the development of critical language skills necessary for effective translation. Translation tasks require learners to engage in complex cognitive processes such as analyzing grammatical structures, interpreting contextual meaning, and selecting appropriate equivalents in the target language. When automated systems generate translation outputs instantly, learners may have fewer opportunities to engage in these analytical processes.

The structural equation modelling (SEM) analysis conducted in this study further demonstrates that machine translation dependency significantly influences translation quality. The negative path coefficient identified in the structural model indicates that higher levels of dependency on machine translation tools are associated with lower levels of translation performance. This finding suggests that although machine translation technologies are widely used, uncontrolled reliance on them may have unintended consequences for the development of translation competence among EFL learners. These findings contribute to the growing body of research examining the pedagogical implications of artificial intelligence technologies in translation education. While previous studies have primarily explored students’ attitudes toward machine translation tools, relatively few studies have empirically investigated how dependency on such technologies influences translation performance using advanced quantitative approaches such as structural equation modelling. Therefore, this study provides important empirical evidence regarding the relationship between machine translation usage and translation competence in EFL learning contexts.

Machine Translation Dependency among EFL Students

The findings of this research reveal that machine translation tools are widely used among EFL students and have become an integral component of their academic learning practices. The descriptive statistics demonstrate that most students frequently rely on machine translation applications when completing translation tasks, confirming previous research that highlights the growing integration of artificial intelligence technologies in language learning environments. The widespread adoption of machine translation tools among students can be attributed to several factors. First, these technologies are highly accessible through web-based platforms and mobile applications. Students can easily access machine translation systems without requiring specialized technical knowledge or advanced linguistic competence. Second, machine translation tools provide immediate translation outputs, significantly reducing the time required to complete translation tasks. Third, many machine translation systems produce fluent sentences that appear grammatically correct, which may increase students’ trust in the reliability of automated translations.

The descriptive findings of this study indicate that machine translation dependency among participants is relatively high. Most students reported using machine translation tools as their primary resource when translating academic texts. In many cases, students used these technologies not only to verify individual vocabulary items but also to translate entire sentences or paragraphs. This pattern suggests that machine translation tools have become normalized within academic environments. The convenience and speed offered by these technologies make them attractive solutions for students who experience difficulties when translating complex texts. However, the frequent use of machine translation tools may also influence how students approach translation tasks. Instead of engaging in careful linguistic analysis, learners may rely on automated outputs to complete assignments quickly. This tendency may gradually shape students' learning behaviors and reduce their engagement in analytical processes that are essential for developing translation competence.

These findings are consistent with previous studies indicating that digital translation tools have become widely adopted among language learners due to their accessibility and convenience. The increasing integration of artificial intelligence technologies in educational environments has fundamentally transformed how students approach translation activities. As a result, machine translation tools are now frequently used as primary translation resources rather than supplementary learning aids. From the perspective of translation pedagogy, this pattern of dependency raises important questions regarding the role of technology in translation training. Traditional translation pedagogy emphasizes the development of translation competence through active engagement with linguistic analysis, problem-solving strategies, and contextual interpretation. When students rely excessively on automated translation systems, they may bypass these important learning processes.

Effects of Machine Translation Dependency on Translation Quality

The structural equation modelling results demonstrate that machine translation dependency has a statistically significant negative effect on translation quality. The SEM analysis revealed a significant negative relationship between machine translation dependency and translation quality ($\beta = -0.42$, $p < 0.01$). This finding indicates that students who rely heavily on automated translation systems tend to demonstrate lower levels of lexical accuracy, grammatical awareness, and semantic equivalence in their translations. Several explanations may account for this relationship. First, although modern neural machine translation technologies have significantly improved translation accuracy, they are still unable to fully capture contextual meaning, cultural nuances, and idiomatic expressions. Machine translation systems often generate grammatically fluent sentences, but such fluency does not always guarantee semantic accuracy. Students who rely heavily on these tools may accept machine-generated outputs without verifying their appropriateness in the given context.

Second, excessive dependency on machine translation systems may reduce students' motivation to develop their own linguistic competence. When automated translation tools are readily available, students may perceive translation tasks as mechanical processes rather than cognitive activities requiring analytical reasoning and linguistic problem-solving. As a result, learners may engage less actively in the cognitive processes necessary for developing translation skills. Third, the apparent fluency of machine-generated translations may create an illusion of accuracy. Students may assume that grammatically fluent outputs are semantically correct, even when subtle translation errors occur. This phenomenon may lead learners to trust machine translation outputs without critically evaluating their linguistic quality.

Despite these concerns, the findings also indicate that machine translation tools can support translation learning when used appropriately. Several participants reported using machine translation systems as reference tools to verify vocabulary meanings or confirm grammatical structures. In such cases, machine translation functions as a supplementary learning resource rather than a replacement for human translation competence. These findings suggest that the pedagogical impact of machine translation technologies is not inherently negative. Instead, the effects largely depend on how students use these tools within their learning processes. When learners rely excessively on automated outputs, translation quality may decline. However, when machine translation tools are used as supportive learning resources, they can facilitate language learning and translation practice.

Cognitive Processes in Translation Learning

Translation competence is closely related to cognitive engagement in language processing. Effective translation requires learners to analyze lexical choices, interpret contextual meaning, and evaluate alternative translation strategies. These cognitive activities contribute to the development of metalinguistic awareness, which plays an important role in advanced language learning. From a cognitive perspective, translation involves complex processes that require learners to interpret meaning, analyze linguistic structures, and produce appropriate equivalents in the

target language. Translation scholars emphasize that translation competence develops through repeated engagement with linguistic problem-solving activities in which translators must actively interpret meaning and select appropriate linguistic expressions. However, when students rely excessively on machine translation tools, they may bypass these analytical processes. Instead of constructing translations through linguistic reasoning, learners may simply copy machine-generated outputs. This behavior reduces opportunities for students to engage in the cognitive processes necessary for developing translation competence. The qualitative interview data collected in this study support this interpretation. Many participants reported that they tend to trust machine translation outputs without thoroughly reviewing the translation results. Several students admitted that they often copy machine-generated translations directly into their assignments with minimal modification. Such practices may result in superficial language processing, which ultimately affects translation quality.

These findings align with previous studies suggesting that learners frequently accept machine translation outputs without performing critical evaluation. As a result, students may develop a passive approach to translation tasks rather than actively engaging in the analytical processes required for effective translation. Nevertheless, machine translation technologies can also support cognitive learning processes when used critically. When students compare machine-generated translations with their own translations and analyze linguistic differences between them, they may develop greater awareness of grammatical structures, lexical choices, and contextual meaning. Therefore, machine translation tools should be viewed as complementary learning resources rather than substitutes for human translation competence.

Pedagogical Implications

Despite the negative relationship identified in this study, machine translation technologies should not be viewed solely as obstacles to language learning. Instead, these tools can provide valuable support for language learners when integrated appropriately into educational practices. Rather than prohibiting the use of machine translation systems, educators should focus on promoting critical and reflective use of these technologies. One effective pedagogical approach is to design translation activities that encourage students to compare machine-generated translations with their own translations. By analyzing the differences between these translations, students can develop greater awareness of linguistic structures and translation strategies. In addition, instructors can incorporate classroom discussions that explore the strengths and limitations of machine translation technologies. Through such discussions, students can learn to evaluate machine translation outputs critically and identify potential translation errors. This reflective approach helps learners develop more responsible strategies for using machine translation tools.

Another pedagogical strategy involves integrating machine translation into collaborative learning activities. For example, students can work in groups to analyze machine-generated translations and discuss possible improvements. Such activities encourage learners to engage actively with linguistic structures while developing critical thinking skills related to translation. Translation courses may also include machine translation post-editing tasks, in which students revise machine-generated translations to improve their accuracy and contextual appropriateness. Through these activities, learners can develop translation competence while gaining practical experience working with translation technologies. Overall, the findings of this study suggest that the pedagogical impact of machine translation depends largely on how these tools are integrated into language learning practices. When students use machine translation critically and reflectively, these technologies can enhance linguistic awareness and support the development of translation competence rather than hinder it.

The main findings of this study highlight several important insights regarding the role of machine translation in EFL translation learning. First, the results indicate that EFL students demonstrate a high level of dependency on machine translation tools when completing translation tasks. The widespread accessibility of digital translation technologies encourages students to rely on automated systems to translate words, sentences, and even longer texts. This reliance is largely driven by the efficiency and convenience offered by machine translation platforms, which allow learners to obtain immediate translation outputs without engaging extensively in linguistic analysis. Consequently, machine translation has become an integral component of students' translation practices in academic settings. Second, the findings reveal that machine translation dependency has a negative influence on students' translation quality. The statistical analysis shows that excessive reliance on machine-generated translations is associated with lower levels of translation accuracy, particularly in terms of grammatical correctness, lexical appropriateness, and semantic equivalence. Students who frequently depend on machine translation tools tend to accept automated outputs without critically evaluating the translation results. As a result, potential translation errors produced by the system may remain uncorrected, which ultimately affects the overall quality of the translated text.

Third, despite the negative relationship identified between machine translation dependency and translation quality, the findings also suggest that moderate and guided use of machine translation tools can support translation learning. When students use these technologies as supplementary resources rather than primary translation strategies, machine translation tools can facilitate vocabulary acquisition, provide linguistic references, and assist learners in understanding complex sentence structures. Therefore, the pedagogical integration of machine translation should emphasize critical engagement and reflective use, enabling students to develop translation competence while still benefiting from technological support.

CONCLUSION

This research examined the relationship between machine translation dependency and translation quality among EFL students in the English Education Study Program at Universitas Persatuan Guru 1945 NTT. The findings demonstrate that machine translation technologies have become widely integrated into students' translation practices. However, the results indicate that excessive reliance on machine translation tools may negatively affect students' translation competence. The SEM analysis revealed a significant negative relationship between machine translation dependency and translation quality, suggesting that students who depend heavily on automated translation systems tend to demonstrate lower levels of lexical accuracy, grammatical awareness, and contextual equivalence. These findings highlight the importance of developing pedagogical strategies that encourage students to use machine translation tools critically rather than dependently. While artificial intelligence technologies offer valuable support for language learning, they should not replace the cognitive processes necessary for developing translation competence.

Based on the findings of this study, several practical recommendations can be proposed for language educators and translation instructors. Language educators should design translation learning activities that integrate machine translation tools in a pedagogically meaningful manner rather than simply allowing or prohibiting their use. Machine translation technologies can be utilized as supportive learning resources that encourage students to engage critically with translation processes. For instance, students can be assigned tasks that require them to compare machine-generated translations with their own translations and analyze the linguistic differences between them. Through such activities, learners can identify translation errors, evaluate lexical choices, and examine grammatical structures more carefully. This reflective approach can help students develop greater awareness of translation strategies while improving their linguistic competence. Furthermore, instructors can incorporate machine translation post-editing activities into translation courses, enabling students to practice revising and improving machine-generated outputs. By integrating machine translation tools into structured learning activities, educators can transform these technologies into effective pedagogical resources that support translation learning rather than hinder it.

In terms of academic implications, future research should further investigate the role of artificial intelligence technologies in language learning and translation education. While the present study focuses on the relationship between machine translation dependency and translation quality, additional research is needed to examine the long-term impact of AI-based translation tools on language learning outcomes. Future studies may explore how different levels of machine translation usage influence the development of translation competence over time. Longitudinal research designs could provide deeper insights into whether guided use of machine translation tools enhances or limits students' linguistic development. Moreover, further studies may examine additional variables such as digital literacy, critical thinking skills, and translation strategy use to better understand how learners interact with machine translation technologies in academic contexts. Expanding research in these areas will contribute to a more comprehensive understanding of how artificial intelligence technologies can be effectively integrated into translation pedagogy.

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