

The Use of Artificial Intelligence (AI) Translation Tools: Implications for Third Language Proficiency

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ABSTRACT

This study examines the impact of using artificial intelligence (AI)-based automatic translation tools, such as ChatGPT and DeepL, on third language proficiency among students at public universities (IPTA) in Malaysia. The primary issue discussed is the reliance of students on AI tools, which may potentially hinder language proficiency in areas such as grammar, writing, and speaking skills. The objective of this study is to evaluate the effect of AI usage on grammar and writing proficiency, analyze the relationship between students' dependency on AI and their speaking skills, and identify the factors that drive students to use AI in learning a third language. This study employs a quantitative approach, with a questionnaire as the primary instrument, distributed to 306 students from three IPTAs in Malaysia. Correlation and regression analyses were used to examine the relationship between AI usage and language proficiency. The findings indicate a significant negative correlation between AI usage and proficiency in grammar and writing, with a correlation coefficient of $r = -0.52$. Additionally, reliance on AI negatively affects speaking skills, with a beta value of -0.45 . Factors such as accessibility to AI, the accuracy of AI, and familiarity with technology were identified as the main contributors to AI usage. In conclusion, while AI facilitates language learning, excessive dependence on it may impair third language proficiency. Therefore, the use of AI must be balanced with innovative learning methods to ensure more comprehensive language mastery.

Keywords: Automatic translation tools, artificial intelligence, third language proficiency

INTRODUCTION

In an era of globalization and rapidly advancing technology, language learning has become increasingly important, particularly third languages such as Arabic, Japanese, French, and Mandarin, which are widely used internationally. AI-based automatic translation tools like ChatGPT, Google Translate and DeepL have become essential resources for students to aid in understanding and translating third-language texts. These AI technologies offer convenience and efficiency in translating complex languages with just a few clicks, making them popular choices among students in public universities (IPTA) (Ahmad, 2021; Ibrahim, 2023).

However, the ease of use of these tools raises concerns regarding the true level of language proficiency among students. Deep language proficiency requires skills in reading, writing, speaking, and listening. These skills may not be optimally developed if students become overly reliant on automatic translation tools. There are concerns that excessive use of AI translation tools may reduce students' active involvement in the learning process, particularly in mastering grammar and vocabulary critically (García & Pérez, 2022; Smith, 2020).

Background of Study

Since the emergence of AI in the education field, AI translation tools have accelerated the process of translation and language learning. Globally, the use of automatic translation tools has been increasingly accepted as

effective learning aids. A study by Ahmad (2021) shows that AI facilitates students' understanding of difficult languages, especially those rarely used in daily communication. Meanwhile, Lim (2022) found that although AI helps in understanding the meaning of words and phrases, it may reduce the need for students to master grammar and syntax effectively.

In Malaysia, the use of automatic translation tools among IPTA students has been increasing, particularly in third-language courses. Ibrahim (2023) emphasized that AI technology helps students comprehend complex language contexts, but reliance on these tools appears to hinder students' ability to develop quality writing skills. Additionally, Abdullah et al. (2020) found that the use of AI often affects students' oral communication skills, as they are not actively engaged in traditional language learning. Thus, this study makes a valuable contribution by investigating the relationship between AI use and students' language skills, particularly in reading, writing, and speaking.

Problem Statement

With the advancement of artificial intelligence (AI) technology, automatic translation tools have become crucial resources in assisting students in understanding third languages at public universities (IPTA). While these tools simplify the translation and learning process, students' dependence on AI raises concerns. To what extent do these tools help or hinder comprehensive third-language proficiency? Good language proficiency involves skills in reading, writing, speaking, and listening, all of which require active engagement in the learning process rather than relying solely on translation tools.

Previous studies have explored the effects of automatic translation tools on language learning, but most have been general in scope and not focused on the context of third-language learning at Malaysian IPTAs (Lim, 2022; Ahmad, 2021). Furthermore, much of the prior research has focused on the positive effects of AI in accelerating language comprehension, without examining the long-term impact of students' reliance on these tools on overall language proficiency (Abdullah et al., 2020). This indicates an empirical gap in research, specifically studies that examine the relationship between AI use and comprehensive third-language proficiency, particularly in the context of students at Malaysian IPTAs.

Moreover, from a methodological perspective, previous studies have often lacked a quantitative focus that measures the direct relationship between AI translation tool usage and language skills such as writing, reading, and speaking. Thus, this study aims to address both empirical and methodological gaps by specifically examining the effects of using AI-based automatic translation tools on third-language proficiency at Malaysian IPTAs. This study will also explore the factors that drive students to rely on AI translation tools and the long-term implications for their language skills. The research questions are as follows:

1. To what extent does the use of AI automatic translation tools affect students' grammar and writing skills in a third language at IPTAs?
2. What is the relationship between students' reliance on AI translation tools and their speaking skills in a third language?
3. What factors contribute to the use of AI translation tools by IPTA students in third-language learning?

The research objectives are as follows:

1. To assess the impact of using AI-based automatic translation tools on students' grammar and writing proficiency in a third language at IPTAs.
2. To analyze the relationship between students' dependence on AI translation tools and their speaking skills in a third language.
3. To identify the factors that contribute to the use of AI translation tools among IPTA students in third-language learning.

Significance, Scope, and Limitations of the Study

This study holds several significant contributions from multiple perspectives. From a knowledge perspective, it contributes to enhancing the understanding of how the use of AI-based automatic translation tools affects third-language proficiency, particularly among IPTA students. The study also provides clearer insights into the impact of AI on grammar, writing, and speaking skills, which can assist researchers and practitioners in the field of education. From a methodological standpoint, this study offers a framework for empirically assessing the relationship between AI technology usage and language proficiency, serving as a foundation for future research in language education. In terms of practice, the study offers practical recommendations for lecturers and educational institutions on how to better manage students' use of AI, ensuring that students maximize the benefits of the technology without compromising their language proficiency. From a policy perspective, the study may also aid policymakers in developing more cautious policies regarding the integration of AI technology in language learning, ensuring that AI is used as a tool to support active learning.

In terms of scope, this study is conducted at IPTAs in Malaysia and involves students enrolled in third-language courses such as Japanese, Arabic, Mandarin, or French. The study focuses on the use of AI-based automatic translation tools by students and their effects on language skills such as grammar, writing, and speaking. Data is collected through questionnaires distributed to IPTA students, and analysis is performed to assess the relationship between AI use and third-language proficiency. However, the study has several limitations. First, it only involves students from IPTAs in Malaysia, which may not represent students from institutions or countries with different educational and technological backgrounds. Second, the sample for this study consists of students taking third-language courses, which may not reflect the entire IPTA student population. Third, the study focuses solely on AI-based automatic translation tools and does not consider other digital language learning tools that may also impact language learning. Lastly, data on students' reliance on AI and language proficiency is collected through questionnaires, which may be subject to self-perception bias. Despite these limitations, the study offers important insights into the impact of AI technology on language learning at IPTAs.

LITERATURE REVIEW

The use of artificial intelligence (AI)-based automatic translation tools in language learning has gained increasing attention worldwide. Numerous studies have been conducted to assess the effectiveness and implications of these tools on students' language proficiency, particularly in the areas of grammar, writing, and speaking.

International studies have demonstrated that AI usage in language learning has positive effects. For instance, Lee (2021) in South Korea found that AI translation tools such as Google Translate help students understand English texts, but over-reliance on this technology weakens their mastery of grammar and complex sentence structures. This finding aligns with the study by Choi and Park (2019), which also revealed that Korean students showed weaknesses in writing skills when they relied too heavily on AI to translate sentences from Korean to English. In Japan, Sato (2022) reported that while AI translation tools help students grasp the basic meanings of English texts, they tend to neglect essential elements of grammar learning, which are critical for comprehensive language mastery.

In the United States, Smith (2020) emphasized that AI aids students in achieving basic comprehension of foreign languages but does not support full mastery of grammar and syntax. Smith (2020) suggested that AI should be used as a supportive tool, rather than a replacement for language proficiency. Bender and Koller (2020) found that students who overly depend on AI face challenges in mastering sentence structures and the cultural context of the language. This is because AI primarily offers literal translations without addressing the complex cultural dimensions that are crucial in language learning.

In the Arab context, Al-Mansour's (2020) study in Saudi Arabia found that AI translation tools facilitate English language learning for Arab students, yet they cause deficiencies in oral communication and writing skills. This study revealed that students who rely on AI struggle to produce high-quality writing and face difficulties in applying correct grammar. Rahman (2019), in his study, emphasized that AI tools accelerate the process of learning English, but students exhibit weaknesses in speaking skills as AI is mainly used for translation purposes

without offering real practice in oral communication.

Studies conducted in Malaysia reflect similar issues. Abdullah et al. (2020) found that AI use in Arabic language learning at public universities (IPTA) helps students understand texts but leads them to neglect deeper aspects of grammar and sentence structure. Students who continuously use AI were found to rely entirely on automatic translations without critically understanding the structure of the language. Ibrahim (2023) further stressed that students who over-rely on AI translation tools demonstrate weaknesses in speaking skills, as they are not actively engaged in the language learning process. This study suggests that students should use AI as a supportive tool, not as the primary resource in learning third languages such as Arabic or Japanese.

In Spain, García and Pérez (2022) found that students who use AI in English language learning experience difficulties in writing accurately and effectively. Although AI helps them understand new vocabulary, students show weaknesses in applying correct grammar and sentence structures. In China, Wang (2021) identified similar implications, where students who frequently use AI to translate from English to Chinese struggle to develop critical thinking and effective writing skills. Wang (2021) emphasized that while AI can be a useful tool when used in moderation, students need guidance to avoid becoming overly dependent on the technology.

All these studies conclude that while AI offers benefits in accelerating the language learning process, there are risks if students rely too heavily on this technology. Excessive use of AI may impede the mastery of language skills, particularly in grammar, writing, and speaking. Therefore, this study contributes to the existing literature by focusing on Malaysian IPTA students and how their reliance on AI translation tools affects their third-language proficiency, with particular attention to grammar, writing, and speaking skills.

Cognitive Learning Theory

In this study, Cognitive Learning Theory serves as the primary theoretical framework. This theory emphasizes that learning requires active information processing, where students must critically engage in understanding and using the language. The use of AI-based automatic translation tools can influence how students process information, particularly in learning a third language. According to this theory, effective language learning necessitates deep engagement in understanding grammar structures, vocabulary, and syntax (Smith, 2020). Dependence on AI tools that provide immediate translations may reduce students' need to think critically and fully master the language (Bender & Koller, 2020). When students rely too heavily on AI, they practice less in writing and speaking skills. Consequently, these skills require more active involvement and a deeper understanding of the language (Lim, 2022).

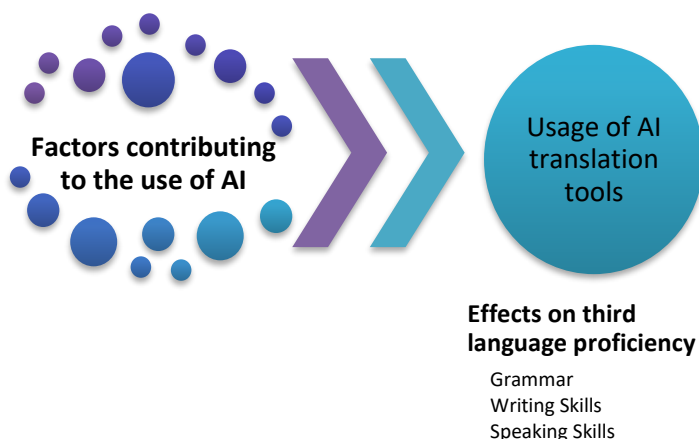


Fig. 1 Conceptual Framework

The conceptual framework in Figure 1 outlines the relationship between the use of AI translation tools and third language proficiency, specifically in the areas of grammar, writing, and speaking skills. This study examines how the use of AI may affect students' language proficiency at public universities (IPTA). It is hypothesized that reliance on AI negatively impacts grammar and writing skills, as students who depend on AI tend not to learn grammar rules thoroughly. Additionally, speaking skills may also be affected, as students using AI for automatic

translation are less engaged in active communication using the third language (García & Pérez, 2022). This study also explores factors contributing to the use of AI, such as ease of access, AI accuracy, and students' proficiency in using the technology.

Three main hypotheses are tested in this study. Hypothesis 1 posits that there is a negative relationship between the use of AI-based translation tools and students' proficiency in grammar and writing in a third language. This suggests that the higher the dependence on AI, the lower the proficiency in grammar and writing. Hypothesis 2 states that there is a negative relationship between students' reliance on AI tools and their speaking skills in the third language, where students who rely more on AI tend to exhibit lower speaking performance. Hypothesis 3 proposes that factors such as ease of access, AI accuracy, and proficiency in using technology influence the level of students' dependence on AI tools in third-language learning.

METHODOLOGY

This study adopts a quantitative approach with a descriptive and correlational design to measure the relationship between the use of AI-based automatic translation tools and third-language proficiency among students at Public Universities (IPTA) in Malaysia. This approach is suitable for assessing students' AI usage levels and its effects on their grammar, writing, and speaking skills. The quantitative approach allows for clear measurement of the variables studied and the relationships between these variables (Creswell, 2014).

The population for this study consists of students enrolled in third-language courses at IPTAs in Malaysia. The study involves students from three different IPTAs, representing the northern, southern, and central regions, with a total population of approximately 1,500 students. To determine an appropriate sample size, this study uses Krejcie and Morgan's formula (1970). Based on this population, the minimum recommended sample size is 306 respondents. Stratified random sampling is used to ensure that each IPTA and language taught is fairly represented in this study. Through this technique, each stratum (students learning different third languages such as Japanese, Arabic, Mandarin, or French) is proportionally represented in the sample. The sampling process begins with obtaining a list of students enrolled in third-language courses. These students are grouped according to the languages they are learning, and a proportional random sample is taken from each group. This ensures that students from each language are represented in the study, producing more general and meaningful data.

The instrument used for this study is a questionnaire, divided into four main sections: (1) Student demographics, (2) Level of AI usage (frequency and purpose of use), (3) Language proficiency (questions related to grammar, writing, and speaking), and (4) Factors influencing AI usage such as accessibility and AI accuracy. The questionnaire is developed based on previous related studies (Ahmad, 2021; Lim, 2022) and tested for validity and reliability.

To ensure the validity of the instrument, the questionnaire undergoes a validation process by a panel of experts consisting of language lecturers and specialists in educational technology. A pilot test is conducted involving 30 students to ensure that the questions are clear and easy to understand. The reliability of the instrument is tested using Cronbach's Alpha, where a value of 0.70 or higher is considered adequate to demonstrate internal consistency of the instrument (Hair et al., 2010). The pilot test involving 30 students shows that the questionnaire has internal consistency with a Cronbach's Alpha value of 0.80, indicating that the questionnaire is reliable and suitable for full-scale study.

The data collection process is conducted over four weeks at three IPTAs in Malaysia, divided by regions. Data is collected through an online questionnaire distributed to students via their institution's learning platforms or official university email. The online questionnaire method is chosen to ensure wider reach, convenience for students to respond, and to minimize the cost and time required for data collection (Dillman et al., 2014). The use of technology like Google Forms helps ensure that the questionnaire is distributed quickly and efficiently.

This study uses descriptive and inferential analyses to analyze the data collected through the questionnaire. Descriptive analysis is used to describe the respondents' profile, such as age, gender, and third language studied. Additionally, descriptive statistics like means, frequencies, and percentages are used to analyze the level of AI tool usage by students. This data provides a general overview of the students' profiles and how they use AI in

language learning.

Next, Pearson correlation analysis is employed to test the relationship between the independent variable (AI translation tool usage) and the dependent variables (grammar, writing, and speaking skills). The purpose of this analysis is to determine whether there is a significant relationship between AI usage and third-language proficiency among students. Additionally, linear regression analysis is conducted to assess the impact of factors such as the level of AI usage, ease of access to AI, and proficiency in using AI on third-language proficiency. This data helps to interpret the factors that most influence language proficiency among IPTA students.

All data is analyzed using SPSS (Statistical Package for the Social Sciences). SPSS is chosen because it offers various tools for performing descriptive and inferential analyses efficiently and accurately. This software is also suitable for conducting correlation and regression analyses, which are the main analyses required for this study (Pallant, 2020).

FINDINGS

The following are the research findings.

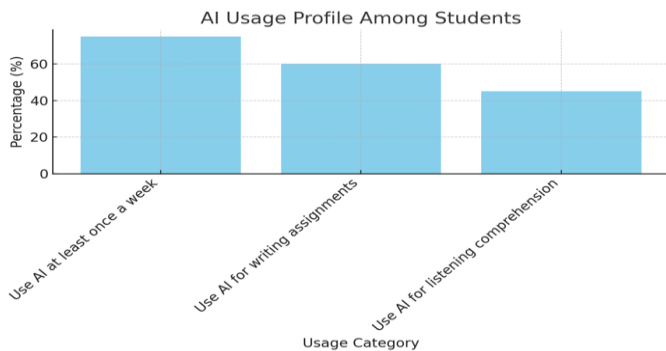


Fig. 2 AI Usage Profile Among Students

Figure 2 illustrates the profile of AI usage, specifically the percentage of students utilizing AI for various purposes such as weekly usage, writing assignments, and understanding spoken language. The figure detailing the percentage of students reveals that the majority use AI primarily for text translation and assignment writing. A total of 75% of students reported using AI at least once a week, reflecting a high level of AI usage. Furthermore, 60% of students use AI for writing assignments, while 45% rely on AI for assisting with comprehension of spoken language. The results indicate that students tend to utilize AI more frequently for activities requiring text comprehension and writing compared to those that involve listening comprehension. The high usage rates for text translation and assignment writing suggest that students prioritize AI as a support tool for understanding foreign language content and producing academic writing.

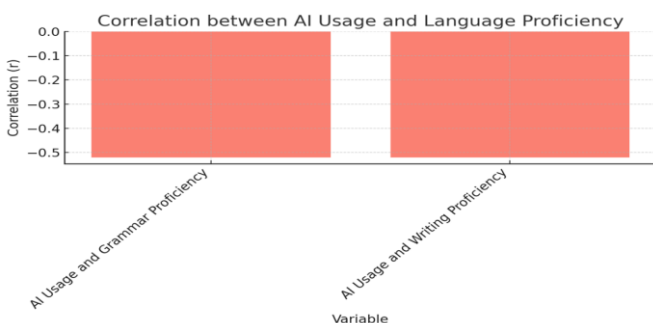


Fig. 3 Correlation Between AI Usage and Language Proficiency

Figure 3 illustrates the relationship between AI usage and language proficiency, specifically the correlation between AI usage and grammar proficiency and writing skills. The negative correlation indicates that the more frequently students use AI, the lower their language proficiency tends to be. The table shows a significant

negative correlation between AI usage and proficiency in grammar and writing, with a correlation value of $r = -0.52$. The findings suggest that students who use AI more frequently tend to have lower levels of grammar and writing proficiency. This negative correlation implies that reliance on AI may hinder students from learning grammar and sentence structures thoroughly. This is because students tend to depend solely on AI for automatic translations rather than understanding the grammar structures themselves.

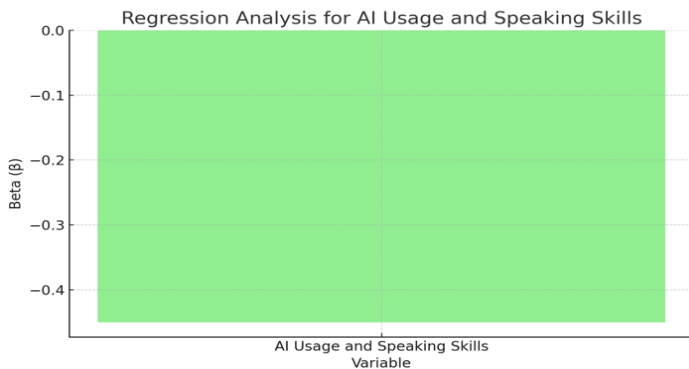


Fig. 4 Regression Analysis for AI Usage and Speaking Skills

Figure 4 illustrates the impact of AI on speaking skills, with the beta value indicating the negative effect of AI usage on speaking proficiency. The regression analysis reveals a beta value of -0.45 , demonstrating the adverse effect of AI usage on speaking skills. This suggests that students who frequently use AI to translate texts or comprehend vocabulary tend to have lower speaking proficiency. These findings are consistent with previous studies, which have shown that reliance on AI reduces students' active engagement in spoken language use. Students practice speaking less because they prioritize text translation over direct practice in oral communication.

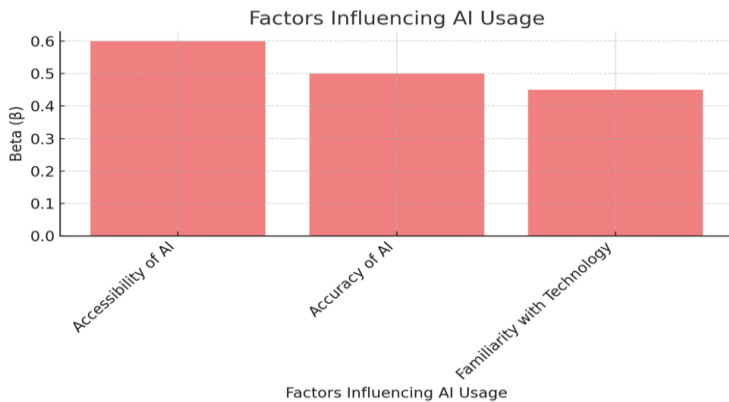


Figure 5. Factors Influencing AI Usage

Figure 5 illustrates the factors influencing AI usage, such as accessibility, accuracy, and proficiency in using technology. The figure shows that ease of access to AI is the most significant factor affecting students' reliance on AI, with a beta value of 0.60 . The findings indicate that students who perceive AI as easily accessible tend to use it more frequently. AI accuracy and familiarity with technology also play important roles, with beta values of 0.50 and 0.45 , respectively. This means that, in addition to ease of access, students who believe that AI provides accurate translations and are accustomed to using technology are more likely to depend on AI in their language learning.

DISCUSSION

This study found that the use of AI-based automatic translation tools such as Chat GPT, Google Translate, DeepL, Microsoft Translator, and other tools like Amazon Translate and iTranslate is widespread among IPTA students, particularly for text translation and assignment writing. These findings are consistent with Ahmad's (2021) study, which reported that 70% of students regularly use AI in academic writing, mainly to assist them

in understanding complex texts. Lim (2022) also found that students tend to use AI more for translation and writing compared to traditional learning methods such as using dictionaries or seeking help from instructors. While AI provides convenience to students, the findings suggest it may reduce their ability to learn critically and actively.

Furthermore, the study identified a significant negative correlation between AI usage and proficiency in grammar and writing. The correlation value of $r = -0.52$ indicates that students who frequently use AI tend to have lower proficiency in grammar and writing. These results align with Al-Mansour's (2020) findings, which showed that students relying on AI for writing tasks exhibited weaker grammar skills compared to those who adopted innovative learning methods. Similarly, García and Pérez (2022) reported a negative correlation between reliance on AI and the writing ability of Spanish-language learners, where AI facilitated translation but hindered grammar and syntax comprehension.

The study also found that AI use negatively affects speaking skills. Students who use AI to understand texts or translate vocabulary demonstrate lower speaking performance, a result consistent with findings by Sato (2022) and Rahman (2019). Sato (2022) discovered that Japanese students relying on AI for text translation rarely practiced oral skills, leading to lower speaking proficiency. Rahman (2019) similarly noted that English-language students in the Middle East who frequently used AI showed weaknesses in oral communication, as AI did not provide opportunities for real-world speaking practice.

From the perspective of factors influencing AI usage, this study found that ease of access to AI tools such as SYSTRAN, Reverso Translation, and Papago was the most significant factor, followed by AI accuracy and proficiency in using technology. This is consistent with Ibrahim's (2023) findings, which reported that IPTA students in Malaysia tend to use AI because it is easily accessible and useful for academic tasks. Wang (2021) supported these findings, noting that students in China are more reliant on AI when they perceive the tools as providing accurate translations, although they are aware that this reliance can reduce their critical skills in understanding language more deeply.

Additionally, Bender and Koller (2020) emphasized that while AI accelerates language learning, it often fails to help students grasp the cultural and contextual nuances of the language being learned. This is in line with the current study's findings, which show that students who rely too heavily on AI fail to develop a comprehensive understanding of the grammar and syntax of the language. Lee (2021) also supported these findings, observing that students who frequently use AI for academic tasks exhibit weaknesses in language mastery, particularly in grammar usage and writing skills.

Choi and Park (2019), in their study in South Korea, also found that students who overuse AI experience a decline in writing quality, especially in terms of grammar accuracy and sentence structure. This corresponds with the present study's results, which show a negative relationship between AI usage and proficiency in grammar and writing. Abdullah and Zainuddin (2021) similarly found that students using AI in Arabic language learning demonstrated weaknesses in mastering proper grammar, even though AI helped them understand word meanings and phrases.

Lastly, Smith (2020) stressed in his study that AI should be used as a supportive tool rather than a substitute for deep language mastery. This study supports that finding, indicating that AI use should be balanced with traditional language learning methods to ensure that students achieve comprehensive language mastery, particularly in areas requiring active engagement such as grammar and speaking.

The findings of this study are consistent with much of the prior research, which shows that while AI assists in facilitating language learning, excessive reliance on this technology can impede overall language proficiency. Therefore, students and educators need to balance AI usage with innovative learning methods to ensure the development of deep language skills.

CONCLUSION

The conclusion of this study reveals that the most impactful finding is the significant negative correlation

between the use of AI-based automatic translation tools and students' proficiency in grammar, writing, and speaking skills at IPTA. The data indicates that reliance on AI negatively affects students' comprehensive mastery of third languages. The most significant implication of the study is the need for educators and institutions to recognize that while AI facilitates learning, its usage must be balanced with innovative learning strategies to ensure students achieve holistic language proficiency. Future research is recommended to explore cybergogy approaches that can effectively integrate AI into language learning without compromising aspects of grammar, writing, and speaking skills, as well as to expand research into the use of other technologies in language education.

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