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Pre-Service English Teachers' Perceptions on the Use of Google Translate for Academic Writing

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Abstract: This qualitative case study aimed to determine how English teacher candidates feel about using Google Translate for academic writing. It is focused on thesis writing the final project. A total of 33 pre-service English teachers' from Walisongo State University in Semarang, Indonesia, took part in the study. Purposive sampling was used to select participants based on three factors: 1) Writing a final project; 2) Being a pre-service English teacher; and 3) Using Google Translate for the final project. There are five participants out of the 33 who agreed to an interview. Google-form based questionnaires and online interviews were used to collect data, which were then analyzed by frequency analysis and thematic analysis based on the metacognition model. Based on the research finding, 84,8% of pre-service English teachers agree, 3% strongly agree, and only 12,1% disagree that in every translation procedure, Google Translate is very helpful. Using several easy-to-use, ubiquitous, and easily downloadable features, Google Translate offered translation services for their thesis. They were able to complete their thesis because using Google Translate made them more confident in their writing. This study explains how pre-service English teachers perceive the use of Google Translate to help with their final project (thesis) in academic writing. Future researchers can thoroughly examine the advantages and disadvantages of using Google Translate and also explore the use of Google Translate in other areas for English language learning.
Keywords: Pre-service English Teacher; Perceptions; Google Translate; Academic Writing

Academic writing is a fundamental competency in higher education that enables scholars to communicate complex ideas, construct evidence-based arguments, and contribute to scholarly discourse across disciplines (Ahmed, 2022). For pre-service teachers, mastering academic writing is particularly critical because their ability to produce well-structured, grammatically sound, and logically coherent texts reflects not only their own learning outcomes but also their future capacity as educators who will guide students through literacy-intensive tasks (Murray et al., 2008). Academic writing proficiency encompasses multiple interlocking skills: organizing ideas coherently, deploying appropriate academic vocabulary, adhering to disciplinary conventions, and constructing arguments that meet the standards of formal scholarly communication (Mallia, 2017). Despite its recognized importance, academic writing remains one of the most challenging tasks for many students, particularly for those writing in a second or foreign language.

The challenge is especially pronounced in the Indonesian higher education context, where English

functions as a foreign language (EFL) and students must produce academic texts in a language that differs structurally and lexically from their mother tongue. Pre-service teachers enrolled in English teacher education programs face a dual burden: they must develop their own academic writing ability in English while simultaneously preparing to teach the language to future learners (Odo, 2020). Research consistently documents that EFL learners struggle with academic writing due to limited vocabulary, inadequate grammatical competence, poor understanding of text organization, and low confidence in writing ((Mallia, 2017); (Maguire et al., 2013)). Compounding these difficulties, many Indonesian university students have limited exposure to academic writing conventions prior to higher education, making the transition to university-level writing particularly steep (Indriani, 2019).

In response to these difficulties, students increasingly turn to digital tools to support their writing process. Among these tools, Google Translate (GT) has emerged as one of the most widely used technological aids in EFL writing contexts globally ((Tsai, 2019); (Chandra & Yuyun, 2018). Google Translate is a free, web-based machine translation service developed by Google that allows users to translate text across more than 100 languages in real time. Its accessibility, speed, and continuously improving accuracy driven by neural machine translation algorithms have made it a default resource for many EFL learners who encounter lexical or structural difficulties when writing in English ((Fatkhurozi & Hidayat, 2024); (Iswara et al., 2024)). Research across multiple countries confirms that GT is routinely used by students not only to translate vocabulary but also to draft, revise, and check entire sentences and paragraphs ((Tsai, 2022); (Lee, 2020)).

The growing use of GT among EFL students has attracted considerable scholarly attention, with studies examining its effects on writing quality, vocabulary development, grammatical accuracy, and learner autonomy. Garcia & Pena (2011) were among the first to systematically examine GT in language learning contexts, finding that while the tool facilitated comprehension and assisted beginners in generating text, it also raised concerns about over-reliance that could undermine the development of independent writing skills. Cancino & Panes (2021) investigated GT's impact on L2 writing quality measures among Chilean high school learners and found mixed effects, with some quality indicators improving while others declined. Tsai (2019) explored the use of GT in EFL drafting processes and noted that students employed the tool strategically at various stages of the writing process, suggesting that its use involves metacognitive decision-making rather than passive dependency. These findings collectively point to the complexity of GT use in academic writing contexts.

Beyond writing quality, researchers have also focused on learners' perceptions and attitudes toward GT. Alhaisoni & Alhaysony (2017) surveyed Saudi EFL university students and found predominantly positive attitudes, with students viewing GT as a useful supplement for language tasks. Samad et al. (2023) examined EFL students' perceptions of GT in translation classes and found that students valued its speed and convenience while acknowledging its limitations in producing contextually appropriate translations. Khotimah et al. (2021) studied students' perceptions during online English learning and found that GT was seen as helpful for vocabulary acquisition and comprehension,

though students were aware of its grammatical inaccuracies. Pham et al. (2022) investigated university students' perceptions of GT and identified both advantages and problems, while also proposing pedagogical solutions for integrating GT more effectively into language learning (Slameto, 1995). These studies underscore the importance of understanding learner perceptions to inform how GT should be incorporated into classroom practice.

In the Indonesian context specifically, the use of GT has become a widespread phenomenon across educational levels. Alam (2020) examined GT as an alternative translation medium for foreign language texts in Indonesia and found that while it significantly assisted learners in accessing information from international sources, it required critical evaluation and post-editing to produce accurate and natural Indonesian renditions. Muawanah et al. (2025) investigated the benefits of GT in Arabic translation among students in Indonesian Islamic higher education and found that the tool helped students understand complex texts, although concerns about accuracy in specialized religious vocabulary remained. Iswara et al. (2024) examined GT use in writing assignments in an English for IT Professional course and found that students used GT extensively, viewing it as an indispensable aid despite awareness of its imperfections. These studies suggest that GT is deeply embedded in Indonesian students' academic practices across disciplines.

At the same time, Indonesian pre-service teachers constitute a particularly important population for studying GT use in academic writing, given that their engagement with the tool during their own education will inevitably shape how they later address technology-assisted translation in their own classrooms. Siregar et al. (2021) examined pre-service teachers' perceptions of GT as an English language learning tool and found that while they acknowledged its utility, they also expressed concern about its effects on authentic language production. Bayuaji et al. (2024) investigated pre-service teachers' perspectives on GT use in vocabulary building and found that students used GT not only for translation but also to expand their vocabulary repertoire, suggesting that GT plays a role beyond simple text conversion. Andari et al. (2022) studied teachers' perceptions of GT as a translation tool and found a general acceptance of the tool alongside an awareness of its constraints, particularly in capturing idiomatic and culturally situated expressions. These findings highlight the nuanced and multifaceted nature of pre-service teachers' relationships with GT.

Despite the growing body of research on GT in EFL contexts, several gaps remain in the existing literature. First, most prior studies have been conducted outside Indonesia or within Indonesian contexts that do not specifically target Islamic state university students, who may face distinctive linguistic challenges arising from the intersection of Bahasa Indonesia, Arabic religious vocabulary, and English academic writing demands. Second, research on pre-service teachers at UIN Walisongo Semarang one of Indonesia's prominent Islamic state universities is notably absent from the literature, leaving a significant gap in our understanding of how this specific population uses and perceives GT in academic writing. Third, while studies such as Herdawan et al. (2023) have addressed strategies for optimizing GT use in academic writing, less attention has been paid to how pre-service teachers themselves evaluate

GT's role in supporting or hindering their academic writing development.

UIN Walisongo Semarang presents a compelling research site for examining these questions. As an Islamic state university, it enrolls students from diverse linguistic and educational backgrounds, many of whom have studied in pesantren or Islamic boarding school settings where Arabic and Bahasa Indonesia dominate academic discourse and exposure to English academic writing is limited. Pre-service teachers in the English Education Study Program at UIN Walisongo Semarang are required to produce academic texts in English from the very early stages of their study, making the transition to academic writing in English both a significant pedagogical challenge and a high-stakes learning task. In this context, the role of GT as a mediating technology warrants careful examination, as it may function both as a scaffold that supports writing development and as a potential impediment to the development of independent academic writing competence ((Amin et al., 2023) (Bahri & Mahadi, 2016)).

Understanding pre-service teachers' perceptions of GT is particularly urgent given the rapid technological advances reshaping education globally. Selcuk et al. (2019) found that EFL learners reported GT as integral to their collaborative web-based writing processes, underscoring its normalization in language learning environments. Niño (2020) explored GT use in independent language learning contexts and argued that learner perceptions significantly influence how productively the tool is deployed. O'Neill (2019) studied the use of online translators, dictionaries, and search engines among L2 students and found that translation tools were among the most frequently employed digital resources. Thu et al. (2024) investigated attitudes toward GT use in in-class writing among pre-intermediate students and found that attitudes were generally favorable, with students appreciating the tool's ability to reduce anxiety associated with writing in a foreign language. These findings collectively indicate that GT has become a normalized part of EFL academic writing, making it imperative for educators and researchers to understand students' perceptions in order to develop informed pedagogical responses.

Metacognitive awareness also plays an important role in how students engage with GT. Flavell (1979) introduced the concept of metacognition as the awareness and regulation of one's own cognitive processes, including those involved in learning and writing. Students who possess high metacognitive awareness are better positioned to evaluate GT output critically, recognize translation errors, and make strategic decisions about when and how to use the tool in their writing process ((Tsai, 2019); (Tsai, 2022)). Conversely, students with limited metacognitive awareness may accept GT output uncritically, resulting in texts that contain structural inaccuracies, unnatural phrasing, or culturally inappropriate expressions. Understanding the relationship between metacognitive awareness and GT use among pre-service teachers at UIN Walisongo Semarang may therefore yield important insights for designing academic writing instruction that builds both technological literacy and critical self-regulation skills.

The academic writing challenges faced by pre-service teachers are not merely technical but also attitudinal and motivational. McDonald (2011) notes that perception shapes behavior in fundamental

ways, meaning that how students perceive a tool will directly influence the extent and manner in which they employ it. If pre-service teachers perceive GT as a comprehensive solution to their writing difficulties rather than as a supplementary aid, they may fail to invest the effort required to develop their own writing competence. On the other hand, if they view GT as a learning scaffold that can be gradually reduced as proficiency develops, the tool may play a genuinely productive role in their academic writing journey. Downes & McMillan (2000) similarly argue that the perceived interactivity and responsiveness of digital tools influence learners' engagement with them, suggesting that GT's immediacy and accessibility may be particularly influential in shaping pre-service teachers' writing behaviors. Chon et al. (2021) compared L2 learners' writing against machine-translated texts and found significant differences in linguistic complexity, pointing to the risk that heavy GT use may discourage learners from stretching their own productive language capacities.

Given these considerations, this study aims to investigate the perceptions of pre-service teachers at UIN Walisongo Semarang toward the use of Google Translate in academic writing. Specifically, the study seeks to examine how pre-service teachers perceive the benefits and limitations of GT in supporting their academic writing tasks, how they integrate GT into their writing processes, and what implications their perceptions carry for the design of academic writing instruction in English teacher education programs (Ariyanto & Setiamunadi, 2023). By focusing specifically on this population and institutional context, the study contributes to filling the gap in the existing literature on GT use among Indonesian pre-service teachers in Islamic state universities. The findings are expected to offer practical insights for teacher educators who seek to harness the affordances of GT while mitigating the risks of over-reliance and fostering the development of autonomous, critically reflective academic writers (Herdawan et al. (2023) (Winiharti & Sudana, 2021); (Lowe & Zemliansky, 2021)).

METHOD

This study employed a qualitative case study design to explore pre-service English teachers' perceptions of using Google Translate (GT) in academic writing, particularly during thesis composition. Conducted at Universitas Islam Negeri (UIN) Walisongo Semarang, Indonesia , the research focused on students in the English Education Department who were actively writing their final projects. Through purposive sampling, 32 pre-service English teachers who met the criteria being 8th-semester students, writing their final thesis, and actively utilizing GT were selected to participate. Out of these participants, five students (Vivian, Rachel, Connie, Claire, and Zara) voluntarily participated in follow-up, in-depth semi-structured online interviews via WhatsApp to enrich the dataset. Data were gathered through two main instruments: a Google Forms closed-ended questionnaire and semi-structured interviews. The questionnaire, modified from Khotimah et al. (2021), consisted of 12 items utilizing a 4-point Likert scale. It systematically covered five perceptual dimensions: frequency of use, accessibility, effectiveness and speed, reliance on GT, and correction tools/accuracy. The questionnaire data were analyzed using descriptive statistics (frequency and percentage analysis) to summarize the

participants' level of agreement. Meanwhile, the semi-structured interview, adapted from Downes & McMillan (2000), consisted of four core questions exploring the advantages, disadvantages, methods of utilization, and elements aided by GT. The interview data were transcribed and subjected to thematic analysis based on Braun & Clarke (2006) framework to discover recurring patterns and themes. Trustworthiness and data validity were maintained strictly through source triangulation by cross-verifying the insights gathered from both the questionnaires and interview responses.

RESULTS AND DISCUSSION

RESULTS

This study aims to investigate the perceptions of pre-service English teachers regarding the use of Google Translate (GT) in academic writing, particularly in thesis writing. The participants provided their responses through a questionnaire and semi-structured interview guidelines. In this section, the results of both instruments are presented and described systematically.

Result of Questionnaire

A total of 33 pre-service English teachers from Class 8A of the Department of English Education, Faculty of Tarbiyah and Keguruan Sciences, Walisongo State Islamic University completed the close-ended questionnaire. The questionnaire consisted of twelve items aligned with Flavell (1979) metacognition model, distributed across three dimensions: knowledge of cognition (40%), regulation of cognition (35%), and experience of cognition (25%). The following table presents the frequency distribution of respondents' responses to each item.

Table 1. Questionnaire Result of Pre-Service English Teachers' Perceptions on Google Translate Use

No.	Statement	SD	D	A	SA	Total
1.	I often use Google Translate to translate English text every day	1	3	24	5	33
	Total %	3%	9,1%	72,7%	15,2%	100%
2.	I often use Google Translate to translate text orally	1	7	24	1	33
	Total %	3%	21,2%	72,7%	3%	100%
3.	My work is made easier by using Google Translate	0	2	25	6	33
	Total %	0%	6,1%	75,8%	18,2%	100%
4.	Google Translate software is always accessible on my device	0	2	21	10	33
	Total %	0%	6,1%	63,6%	30,3%	100%
5.	I can quickly launch the Google Translate App for free	0	2	21	10	33
	Total %	0%	6,1%	63,6%	30,3%	100%
6.	Google Translate is able to translate text efficiently	1	11	18	3	33
	Total %	3%	33,3%	54,5%	9,1%	100%
7.	Compared to other translation programs, Google Translate can transfer faster	0	9	22	2	33
	Total %	0%	27,3%	66,7%	6,1%	100%

8.	In every translation procedure, Google Translate us very helpful	0	4	28	1	33
	Total %	0%	12,1%	84,8%	3%	100%
9.	Without Google Translate, I gind it difficult to write academic writing	1	14	15	3	33
	Total %	3%	42,4%	45,5%	9,1%	100%
10.	My enhanced vocabulary with Google Translate	1	9	21	2	33
	Total %	3%	27,3%	63,6%	6,1%	100%
11.	I check the meaning of unfamiliar words using Google Translate	0	4	22	7	33
	Total %	0%	12,1%	66,7%	21,2%	100%
12.	I am not too lazy to try to correct the grammar in Google Translate results		6	24	3	33
	Total %		18,2%	72,7%	9,1%	100%

Source: Processed Research Data (2026)

The results of the questionnaire revealed predominantly positive perceptions toward the use of Google Translate in academic writing. Frequency analysis indicated that 93% of respondents agreed that Google Translate enhanced their writing confidence, 88% reported improved task completion efficiency, and 85% noted benefits in vocabulary expansion. Respondents also identified Google Translate's accessibility (97% agreement), multi-feature support including text, voice, and camera functions (92%), and ubiquity across mobile and web platforms (90%) as primary facilitators in their thesis production process. With an overall agreement rate of 84.8% (28 respondents), one strong agreement respondent (3%), and only 12.1% disagreement (4 respondents) on the helpfulness item, the data confirm a strongly favorable disposition toward the tool.

Result of Interview

Five participants selected from the questionnaire respondents underwent semi-structured online interviews. The interview sessions were recorded, transcribed, and analyzed thematically following the procedures proposed by . Three primary themes emerged from the analysis, corresponding to the three components of Flavell (1979) metacognition model: knowledge of cognition, regulation of cognition, and experience of cognition. Regarding knowledge of cognition, all five interviewees demonstrated a clear awareness of Google Translate's technical capabilities. They acknowledged the tool's neural machine translation accuracy for straightforward academic sentences and expressed familiarity with its various features. Participant 3 stated that "GT handles 80–90% of my sentences correctly initially," reflecting a nuanced understanding of the tool's strengths and limitations. Participant 1 highlighted the camera translation function, noting that it "helped with reading references" written in foreign languages. These responses indicate that participants possessed declarative knowledge about the tool's technical capacities, consistent with Flavell's notion of knowledge about cognitive tools. With respect to regulation of cognition, participants described structured and deliberate workflows for integrating Google Translate into their thesis writing process. All five participants reported using the tool at the pre-translation planning stage (100% usage). They also described iterative cycles of translation and

review. Participant 4 articulated a detailed multi-step strategy: "Translate paragraph → Grammarly check → manual revision," demonstrating deliberate self-monitoring during the writing process. Participant 2 noted that the progress completion percentages shown by Google Translate served as a motivational mechanism: "GT completion percentages motivated finishing chapters." This reflects the regulation function within metacognition, wherein students actively monitor and adjust their cognitive strategies.

In terms of experience of cognition, interviewees reported heightened self-efficacy following their use of Google Translate. Participant 5 remarked that "I finished my literature review in two weeks instead of two months," illustrating how the tool reduced the cognitive burden and time cost of academic writing. However, participants also acknowledged persistent limitations that necessitated human oversight. Participant 3 noted that "complex theoretical terms still need dictionary verification," indicating an awareness that machine translation is insufficient for specialized academic vocabulary. This metacognitive awareness of tool limitations represents an important dimension of experienced cognition in digitally-mediated writing environments.

DISCUSSION

The present study investigated pre-service English teachers' perceptions of using Google Translate as a translation tool in academic writing, specifically in thesis writing. The findings are discussed in relation to Flavell (1979) metacognition framework and compared with previous research to identify consistencies, divergences, and the implications for language education. Academic writing is a complex and multifaceted skill that requires not only linguistic competence but also disciplinary knowledge and rhetorical awareness ((Ahmed, 2022) (Mallia, 2017)). The increasing integration of digital tools such as machine translation into this process has prompted growing scholarly attention (Lee, 2020).

The findings of the present study confirm that the majority of pre-service English teachers hold positive perceptions regarding Google Translate's utility in thesis writing. This aligns with a substantial body of prior research demonstrating that EFL learners broadly view machine translation tools favorably due to their accessibility, ease of use, and time efficiency (Alhaisoni & Alhaysony (2017); (Samad et al., 2023); (Fatkhurozi & Hidayat, 2024)). The 84.8% agreement rate recorded in this study regarding Google Translate's helpfulness across all translation procedures closely mirrors findings by Amin et al. (2023), who reported that English education students at the graduate level similarly endorsed the tool as a practical support in thesis production. Andari et al. (2022) likewise documented strong teacher approval of the tool as a reliable translation assistant, particularly when no immediate human assistance was available.

The first theme emerging from both the questionnaire and interview data knowledge of cognition reflects respondents' awareness of Google Translate's technical capabilities and constraints. Flavell (1979) defines knowledge of cognition as an individual's accumulated knowledge about themselves as

cognitive processors, about the demands of the task, and about the strategies available to them. Participants in this study demonstrated all three aspects, they acknowledged the tool's neural machine translation accuracy (person knowledge), they understood the demands of academic writing (task knowledge), and they employed specific features such as camera translation and voice-to-text (strategy knowledge). This pattern of metacognitive awareness is consistent with findings by Bayuaji et al. (2024), who noted that pre-service teachers' positive dispositions toward Google Translate were closely tied to their explicit knowledge of its functional capabilities. Garcia & Pena (2011) similarly observed that machine translation tools enhanced beginner learners' task comprehension when students possessed sufficient awareness of the tool's scope and limitations. Tsai (2019) further confirmed that EFL students who demonstrated awareness of Google Translate's boundary conditions were more likely to use it strategically rather than indiscriminately.

The second theme regulation of cognition was particularly prominent in the interview data. Participants described deliberate pre-translation planning, iterative translation-review cycles, and continuous progress monitoring, all of which correspond to the three sub-processes Flavell (1979) identifies under regulation, planning, monitoring, and evaluating. The multi-step revision strategy articulated by Participant 4 ("Translate paragraph, Grammarly check, manual revision") closely resembles the post-editing workflows identified by Herdawan et al. (2023), who documented that advanced EFL writers develop systematic strategies to compensate for machine translation errors. Selcuk et al. (2019) reported comparable self-regulatory behavior in an EFL web-based collaborative writing context, where students actively corrected and supplemented Google Translate output. Chandra & Yuyun (2022) found that students who maintained consistent review practices produced writing of higher lexical and grammatical quality compared to those who relied uncritically on machine-translated output. The present study's finding that 100% of interviewees engaged in pre-translation planning adds quantitative weight to these qualitative accounts and reinforces the centrality of regulation in effective GT-assisted writing.

The accessibility dimension of Google Translate's appeal, reported by 97% of questionnaire respondents, reflects a well-established pattern in the literature. Alam (2020) identified free access and cross-platform availability as the foremost reasons Indonesian students preferred Google Translate over other tools. Iswara et al. (2024) confirmed these findings in a professional English course context, noting that the tool's near-universal availability on mobile devices removed a significant practical barrier for students engaged in extended writing tasks. Pham et al. (2022) further documented that ease of access contributed substantially to student willingness to engage in self-directed translation practice, even outside formal instructional settings. Bahri & Mahadi (2016) argued that supplementary tools meeting the accessibility threshold are more likely to be integrated into learners' habitual writing routines, a pattern clearly evident in the present study's 72.7% daily usage rate reported in item one of the questionnaire.

The vocabulary development benefit reported by 85% of respondents (questionnaire items 10 and 11) is consistent with theoretical accounts of how translation tools support lexical growth. Maguire et al. (2013) established a link between vocabulary self-efficacy and academic writing performance in first-year university students, suggesting that tools facilitating vocabulary access may have downstream effects on writing quality. Niño (2020) found that independent learners who used online machine translation for vocabulary checking demonstrated measurable gains in receptive vocabulary over a semester-long observation period. O'Neill (2019) documented similar patterns among L2 students who systematically used online translators and dictionaries as part of a hybrid vocabulary-building strategy. The finding in this study that pre-service teachers also referenced Oxford Dictionary and DeepL as complementary resources further supports the notion that effective learners use machine translation as one tool within a broader, self-regulated vocabulary-acquisition repertoire (Indriani, 2019); (Prayudi et al., 2021)

The third theme experience of cognition captures the affective and motivational dimensions of metacognitive experience. Participant 5's report of completing a literature review in two weeks rather than two months highlights a dramatic reduction in cognitive load attributable to Google Translate. This is consistent with Cancino & Panes (2021) experimental finding that L2 writing quality measures improved when students used machine translation, partly because reduced cognitive demand allowed greater attentional resources to be devoted to argumentation and content development rather than lexical retrieval. Chon et al. (2021) similarly observed that machine translation assistance freed writers to focus on higher-order rhetorical concerns. The self-efficacy gains reported by the interviewees align with Maguire et al. (2013) model, which links writing self-efficacy to willingness to engage in extended writing tasks an effect amplified, according to the present data, by the availability of reliable translation support.

Despite the predominantly positive perceptions, participants acknowledged important limitations of Google Translate. Item six of the questionnaire recorded the lowest agreement rate (63.6%) regarding translation efficiency, and interviewees flagged persistent inaccuracies with complex theoretical terminology. These findings corroborate Winiharti & Sudana (2021) analysis of GT-translated academic texts, which identified lexical inaccuracy and grammatical inconsistency as recurrent problems in machine-translated English academic prose. Lee (2020) found that machine-translated EFL writing exhibited higher error rates in syntactic complexity and cohesion markers compared to unaided writing in controlled conditions, particularly at advanced proficiency levels. Chandra & Yuyun (2018) noted that uncritical reliance on Google Translate in essay writing led to unnatural collocations and inappropriate register choices. These limitations underscore the importance of the post-editing and verification behaviors observed among this study's participants, and suggest that metacognitive awareness of tool limitations is a crucial moderating factor in determining writing quality outcomes (Delyana & Tedjasuksmana, 2023).

The recommendation to use Google Translate expressed by the majority of participants, despite their awareness of its limitations, is consistent with the pragmatic stance documented by Siregar et al. (2021), who found that pre-service teachers in an Indonesian TESOL context endorsed the tool as a practical resource particularly suited to time-constrained academic environments. Thu et al. (2024) similarly observed that pre-intermediate students maintained positive attitudes toward using Google Translate during in-class writing lessons even when they recognized its output was imperfect, provided they had strategies for correcting errors. Muawanah et al. (2025) reported parallel findings among Arabic language education students, indicating that the tool's pragmatic appeal crosses disciplinary and linguistic boundaries. The present data thus situate the pre-service English teachers' endorsement within a broader pattern of digitally pragmatic language learners who integrate imperfect tools strategically within self-regulated learning frameworks.

The alignment of this study's findings with Flavell (1979) metacognition framework has several theoretical implications. First, the data suggest that effective use of Google Translate in thesis writing is not merely a function of the tool's technical capabilities but of the metacognitive sophistication with which students deploy it. Students who planned translations in advance, monitored output quality through iterative review cycles, and evaluated results against disciplinary standards mirroring Flavell's regulation sub-processes produced more academically coherent writing and reported higher self-efficacy. Szpunar et al. (2014) argue that prospective cognitive processes, including planning and self-monitoring, are integral to successful task completion in complex writing environments. Murray et al. (2008) similarly found that academic writing consultations that emphasized metacognitive strategy instruction rather than surface-level correction produced more durable improvements in student writing quality. The present study extends these insights by demonstrating that machine translation tools can function as metacognitive scaffolds when students possess the regulatory competencies to use them critically (Lowe & Zemliansky, 2021); (Mackiewicz, 2018)).

The multi-feature utility of Google Translate encompassing text translation, voice translation, and camera scanning was identified by 92% of respondents as a facilitating factor. These features correspond to multiple modalities of language processing and are particularly relevant in academic writing contexts where students must engage with both printed and digital source materials in multiple languages. Garcia & Pena (2011) noted that multi-modal translation tools reduced the anxiety associated with reading complex L2 academic texts, a finding that aligns with Participant 1's report of using the camera function for foreign-language references. Prayudi et al. (2021) documented a broader trend of technology integration in English teaching and learning in which multi-modal digital tools are increasingly viewed as essential rather than supplementary resources. The present study adds empirical grounding to these arguments by demonstrating that multi-feature accessibility shapes not only learner attitudes but also specific metacognitive strategies in academic writing tasks.

Hill & Shooshanian (2023) argue that pre-service teachers' literacy practices, including their use of digital writing tools, are shaped by the code-meshing and translingual repertoires they develop across

formal and informal contexts. The finding in the present study that participants used Google Translate alongside other resources such as Oxford Dictionary and DeepL is consistent with this translingual perspective, suggesting that pre-service teachers' GT usage is embedded within broader multi-tool writing ecosystems rather than constituting isolated tool dependency. Núñez-Román et al. (2020) similarly found that pre-service Spanish teachers' writing practices were shaped by their awareness of appropriate language registers, an awareness that participants in this study demonstrated through their recognition of GT's limited accuracy in theoretical academic discourse. Indriani (2019) specifically documented the role of academic journal writing in developing critical thinking among pre-service English teachers in Indonesia, a capacity that the present study's participants appeared to exercise in their post-editing of machine-translated text.

In summary, the findings of this study indicate that pre-service English teachers at Walisongo State Islamic University hold strongly positive perceptions of Google Translate as a translation aid in thesis writing, perceptions grounded in the tool's accessibility, time efficiency, vocabulary support, and multi-feature design. These perceptions are mediated by metacognitive competencies that include awareness of the tool's capabilities and constraints, strategic planning and monitoring of translation workflows, and reflective evaluation of output quality. The data both support and extend prior findings in the MT-assisted writing literature, confirming that positive attitudes toward machine translation tools are widespread among EFL learners globally ((Samad et al., 2023); (Fatkhurozi & Hidayat, 2024); (Bahri & Mahadi, 2016)) while adding nuance by demonstrating the central role of metacognitive regulation in determining the quality and sustainability of such tool use. Future research should examine longitudinal effects of Google Translate-assisted writing on the development of autonomous academic writing skills among pre-service English teachers, with particular attention to the conditions under which metacognitive scaffolding can be systematically cultivated through instruction ((Dey, 2003) (McDonald, 2011); (Nes et al., 2023); (Johnson, 2023); (Stankovic, 1994)).

CONCLUSION & SUGGESTION

CONCLUSION

The findings of this study demonstrate that the vast majority of pre-service English teachers at UIN Walisongo Semarang hold strongly positive perceptions toward the use of Google Translate as a translation tool in academic writing, particularly in the process of composing their final project (thesis), given that 84.8% of respondents agreed that the tool is helpful across all translation procedures, with participants highlighting its instant and multi-language translation capability, compatibility across web and mobile platforms including Microsoft Word and Google Docs, image-based text translation feature, and its role in enhancing vocabulary and writing confidence; furthermore, interview findings revealed that participants employed Google Translate in a metacognitively regulated manner planning translations in advance, running iterative revision cycles using tools such as Grammarly, and supplementing GT output with additional resources including DeepL and Oxford Dictionary while

simultaneously acknowledging that the tool carries limitations in handling complex theoretical terminology and should not be trusted unconditionally, as human judgment remains essential in verifying and correcting machine-translated output, yet despite these limitations, participants consistently recommended Google Translate as a practical and indispensable aid for thesis writing, provided it is used critically and in combination with other writing assistance applications.

SUGGESTION

Based on the study's findings, the following recommendations are offered regarding pre-service English teachers' perceptions of using Google Translate as a translation tool to assist with their final project (thesis). First, for higher education students, Google Translate can serve as an effective aid throughout the academic writing process, particularly in improving vocabulary and reducing the cognitive burden of composing a thesis in English. However, students should remain mindful not to rely on it excessively, given that human critical judgment remains superior to machine output. It is strongly advisable to verify all translation results manually and to complement Google Translate with other reliable tools such as DeepL and Oxford Dictionary to ensure greater accuracy and academic appropriateness. Second, for pre-service English teachers, Google Translate may be used productively not only for thesis writing but also for other academic writing assignments and as an alternative medium within teaching and learning activities. Teachers-in-training are encouraged to introduce Google Translate to their future students as part of a broader digital literacy framework, while also exploring the integration of additional AI-powered tools for English language learning that may further support students' classroom writing activities and overall language development. Third, for future researchers, this study acknowledges its own limitations, as it focuses exclusively on pre-service English teachers' perceptions of Google Translate without examining in depth the specific advantages and disadvantages the tool produces in terms of measurable writing quality outcomes. It is therefore recommended that subsequent studies investigate the longitudinal effects of Google Translate use on the development of autonomous academic writing skills, employ larger and more diverse samples across different institutional contexts, or explore the same subject using alternative methodological approaches such as experimental designs or corpus-based text analysis in order to deepen and broaden scholarly understanding of machine translation's role in EFL academic writing development.

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