THE DOUBLE EDGE OF THE MACHINE: ARTIFICIAL INTELLIGENCE IN TRANSLATION AND ITS IMPLICATIONS FOR LANGUAGE EDUCATION

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Abstract: The rapid development of artificial intelligence (AI) – driven machine translation (MT) has changed how translation and language practitioners work with texts across languages. Machine translation tools such as Google Translate, DeepL, and large language model (LLM)-based systems currently offer instantaneous, fluent translations of source material, which is reshaping reading, writing, and cross-cultural communication practices. This article synthesizes recent research from TESOL, applied linguistics, and translation studies to examine advantages and disadvantages of AI-driven translation. It looks at accessibility, motivation, and learner confidence along with concerns about accuracy, overreliance, academic integrity, and the erosion of professional language development in language experts. The article closes with recommendations for applying AI translation tools in the translation practices in a way that supports, rather than replaces, human language translating.

Keywords: machine translation, artificial intelligence, TESOL, English language teaching, learner autonomy, translanguaging

1. Introduction

Translation has always been an uneasy practice in language teaching. In the twentieth century, proponents of communicative approaches treated first-language (L1) translation as old practices to be avoided, assuming that it distracted learners from thinking directly in the target language. This assumption has become difficult to sustain in a classroom with an easy access to free, high-quality AI translation tools that students can use almost in any writing and reading task. Wang et al. (2022) trace rapid gains in neural machine translation (NMT) architecture that made this ubiquity possible while Hassan et al. (2018) reported system performance approaching human parity in news-translation tasks only a few years after NMT's introduction. According to their studies, the consequence for English language teaching (ELT) is that MT is no longer a curiosity: it is a default tool that learners bring into the classroom whether or not instructors have decided how to respond to it.

This article reviews recent research, largely from TESOL, applied linguistics, and computer-assisted language learning (CALL) journals, on the influence of this shift on language instruction. It is organized around two broad questions. First, what capabilities do AI translation tools add to L2 acquisition and translation training? Second, what risks do these tools bring, and how have researchers addressed the tension between efficiency and effortful language processing in acquisition? The article closes with practical implications of AI-assisted translation on language instruction.

2. From Rule-Based Systems to Generative AI

Early machine translation worked based on rules and statistics that often produced too formal, error-prone output, which made instructors look at technology with skepticism (Zhang & Zong, 2020). The transition to neural architectures and large models capable of accurate translation has shrunk the gap between machine and human translation on different language genres (Wang et al., 2022). This shift has brought broader reliance on AI applications for language teaching, in which MT appears

bundled with other AI-supported functions, such as grammar correction and automated feedback, inside a single tool.

This progress matters pedagogically across many educational spheres. While early research treated using Google Translate as a discrete, observable behavior, recent users increasingly move between MT tools, generative AI chatbots, and grammar checkers inside one writing session. Kaluzna and Kruk (2024) compared students using AI-driven translation, students using regular machine translation, and those translating manually. They found that the boundaries and differences between these translation methods already make it difficult to study accuracy, motivation, and emotion in translation separately.

3. Reported benefits of AI-Driven Translation

The clearest and unarguable benefit of AI-driven translation is its speed and ease. Learners can easily translate a difficult expression or sentence with the help of AI instead of getting stuck. Nino (2020) reports that independent learners often used online translation tools to help with reading and drafting, using them as supportive tools rather than complete replacement for their own writing.

AI tools also have been reported to increase confidence and motivation in translation, especially in translator training. Kaluzna and Kruk (2024) found that students relying on AI felt more motivated and positive than those translating manually. The former also produced more accurate translations. In a survey of Czech and international EFL students held by Klimova (2025) at the university of Hradec Kralove, most respondents said that tools like Google Translate, DeepL, or ChatGPT helped them to stay motivated in their learning, although a good number of the students reported the opposite. In professional translator training, learners often use a machine-assisted draft first as a starting point, then focus on editing, fixing tone, cultural context, and accuracy of the translation, which is known as post-editing. This gives students less pressure and a hybrid workflow much like what professional translators actually use. AI tools have also been suggested as a way to grant students more personalized practice, particularly in fields like English for Specific Purposes, where standard textbooks often fall short.

4. Limitations and Pedagogical Concerns

Even sophisticated AI translations can miss the mark on tone, idioms, and cultural meaning in source materials. The results of the above-mentioned student survey suggest that many students witnessed the difficulty of MT to capture cultural nuance, even when grammar seemed perfect. An easy and smooth translation is not always a correct one, and this is not often noticeable for beginner learners.

A bigger worry comes with overreliance on machine translation and AI use in general. Almusharraf and Bailey (2023) found that EFL students in Saudi Arabia and South Korea preferred AI to save time and effort, but this raised concerns about whether they were trying to learn the language or just wanted to finish the task. In the same student survey, about four in ten respondents remarked that their motivation in language learning decreased since they started relying on MT. This shows that the same tool that scaffolds a struggling learner can, if used on production tasks habitually, prevent essential practice of building durable vocabulary and grammatical knowledge.

AI translation also complicates assessment validity. When a student's writing is processed with an AI tool, it becomes difficult for instructors to tell what the students can really do independently, a problem that undermines testing, diagnostic writing tasks, and assessment intended to check unassisted writing proficiency. As MT fluency improves and student post-editing further disguises the origin of the translation, distinguishing machine assisted writing from independent work becomes increasingly difficult for instructors. This raises practical questions for course design: if a writing task can be completed by MT, that task might no longer measure what it was supposed to measure.

5. Implications for Classroom and Task Design

None of the arguments presented in the article support a policy of prohibiting or freely permitting AI translation tools. Instead, it suggests more differentiated and task-specific integration. Firstly, translation training programs can treat post-editing as an authentic skill to practice and grade. Writing tests meant to check an independent skill need to be redesigned, for instance using supervised tasks more, so MT cannot quietly do the work for the students. Moreover, teachers can openly discuss the MT application and where it falls short, like tone, idioms, and cultural aspects of the language, so the students learn to distinguish its output better. Given how much AI tools can boost motivation in language learning, banning them completely would do more harm than good. The better option would be teaching students when and how to use AI translation and when to rely on their own judgement and skills.

6. Conclusion

In just a few years, AI translation has transitioned from a rough, unreliable tool to something fluent, high-speed, and virtually unavoidable in language classrooms and translation programs. The research reviewed in this article points to a mixed picture: increase in accessibility, motivation, and writing support, set against weaknesses in cultural accuracy and tone marking, a tendency toward overreliance, and concerns about academic integrity and fair assessment. Neither enthusiasm nor prohibition fits the findings well, since each ignores half of what the research actually shows.

A more reasonable path is to treat AI translation as a tool whose strengths and limitations are clearly understood. Educators who explain what these tools get wrong and decide to let students see and correct these errors are likely to benefit from technology more than those ignoring or forbidding it. Regarding assessment design, tasks should be structured so that MT availability does not affect or undermine the purpose of the task and what it is supposed to measure. As these tools continue to evolve and improve, the line between machine translation and AI assistants will blur further, and integrating these technological advances will likely matter more for TESOL and ELT practice in the future.

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