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Students' Perspective on Using Technology to Improve Translation Quality in Translation Classes

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Abstract

Translation plays a vital role in bridging languages and cultures, and the rapid development of translation technologies has created new opportunities and challenges in translator education. This study aimed to explore students' perspectives on how the use of technology improves their translation quality in university-level translation classes, with a focus on accuracy, fluency, and efficiency, while also examining the barriers students face. A qualitative research design was employed with purposive sampling of 46 students from two translation classes in the English Department of Universitas Khairun. Data were collected through participatory observation, semi-structured interviews, and student translation outputs, and analyzed thematically. Findings reveal that based on students' experiences, technology enhances translation accuracy, fluency, and efficiency, although barriers such as inadequate training and over-reliance persist. The study recommends comprehensive technological integration into the curriculum, supported by appropriate pedagogical strategies. In conclusion, the research underscores that effective and reflective use of technology can transform translation education by cultivating digitally competent, autonomous, and critically engaged translators ready for the professional field.

Keywords: *Students' Perspective; Translation; Computer-Assisted Translation; Technology*

INTRODUCTION

In the era of globalization and digitalization, the ability to translate professionally has become an increasingly important necessity in various fields, including education, business, law, and culture. Translation classes, as part of English Department Study Program, play a strategic role in preparing students to face the demands of the professional world, which requires translation skills that are accurate, efficient, and contextual. The growing demand for professional translators underscores the importance of developing translation competence that integrates linguistic, cultural, and technological proficiencies (Munday et al., 2022)

The ability to translate professionally has become one of the essential skills, as the need for cross-linguistic communication continues to grow in a globalized society. Students studying translation in translation classes are expected not only to understand the source text but also to produce translations that are accurate, contextual, and relevant. However, various studies have shown that the quality of student translations often remains at a level that needs improvement, particularly in terms of accuracy, fluency, and speed (Hatim & Mason, 2014; House, 2014; Nord, 2005)

The quality of student translations often faces challenges such as a lack of understanding of cultural context, inaccurate use of terminology, and time constraints in completing translation tasks. On the other hand, technological advancements have produced various tools that can support the translation process, such as Computer-Assisted Translation (CAT) tools, artificial intelligence-based applications, and Machine Translation systems. These innovations have transformed how translation is taught and practiced, offering students more efficient and resourceful means to approach translation tasks (Kenny, 2019)

The use of technology in translation classes has the potential to help students improve the quality of their translations through features such as automatic glossaries, translation memory, and faster contextual analysis. However, the adoption of technology in translation learning still often encounters obstacles, such as a lack of understanding of how to use technology effectively, limited access to resources, and concerns about over-reliance on technology, which may diminish students' manual translation skills.

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Technology plays a significant role in the field of translation, particularly with the presence of computer-based translation tools such as Computer-Assisted

Translation (CAT) tools and machine translators. These technologies not only enhance the efficiency of the translation process but can also help improve translation quality. (Baker, 2018) states that technologies like CAT tools offer benefits in terms of translation consistency and speed up the translation process, while (Urlaub & Dessein, 2022) point out that the use of machine translators (such as Google Translate) can assist translators in completing texts more quickly, although challenges still remain in terms of accuracy and contextual adaptation. Therefore, the use of technology in translation education presents opportunities to enhance students' skills in facing the challenges of the professional world.

Technology can also assist students in improving the quality of their translations through more advanced tools, such as artificial intelligence (AI)-based applications that can analyze texts in greater depth. (Schwieter, 2020) denotes that the use of technology in translation improves translation quality in a faster and more structured manner, allowing students to produce more accurate translations. In a study conducted by (Gough, 2019), it was found that translators using translation software were able to produce more consistent work with fewer errors. However, although technology offers significant benefits, challenges still remain—particularly regarding dependency on tools and the potential reduction of creativity and interpretive skills in translation.

Despite the potential of technology to enhance translation quality, students face various challenges in using it effectively. (Qassem, 2020) identifies one of the main challenges as the lack of adequate training in using translation software or related technologies. Many students feel unskilled in operating these tools, which can impact the quality of their translations. In addition, (Hosseini, 2021) suggests that the use of technology can lead to over-reliance on tools, which may ultimately affect students' critical skills in understanding cultural context and linguistic nuances—both of which are essential in translation.

In short, while previous studies have mainly focused on the technical aspects of using translation tools, there remains a limited understanding of how students themselves perceive the role of technology in improving translation quality—particularly in terms of accuracy, fluency, and efficiency. This gap highlights the need for further investigation into students' perspectives and experiences in technology-assisted translation learning, to inform more effective pedagogical strategies and curriculum design.

It is important to note that in translation classes, technology offers opportunities to enrich students' learning experiences. (Moiseienko et al., 2021) explain that the integration of technology into the translation curriculum can accelerate the learning process and provide students with easier access to various resources, such as automatic dictionaries or reference systems. However, technology must also be combined with appropriate teaching approaches to ensure that students can use it effectively. (Shadiev et al., 2024) emphasize the importance of integrating technology into translation education to prepare students for a professional world that increasingly relies on technological tools.

Therefore, this study aims to examine students' perspectives on using technology in enhancing students' translation quality, focusing on accuracy, fluency, and efficiency. It investigates their experiences towards the benefits and challenges of technology use in translation classes to develop strategies for optimizing its integration to align translation training with professional industry standards. The research addresses the urgent need to bridge the gap between academic practices and industry expectations, supporting curriculum development and preparing students to become competent translators for the global market.

METHOD

This study adopted a qualitative research design to explore students' perspectives and experiences with translation technology. Thematic analysis was employed to identify patterns across data sources, allowing for a holistic understanding of how technology influences translation quality in terms of accuracy, fluency, and efficiency (Creswell, 2018).

Purposive sampling was used to recruit 46 students from two translation classes in the English Department, Faculty of Cultural Sciences, Universitas Khairun. Inclusion criteria required participants to be actively enrolled, willing to participate in observations and interviews, and able to access translation tools through personal or institutional resources. Students who did not meet these criteria or were unable to commit to the study timeline were excluded. The final sample represented varying levels of familiarity with translation technologies, from novice to advanced users.

Data were collected through class participatory observation, student translation outputs, and semi-structured interviews. Observations focused on student engagement, the use of technologies such as CAT software, machine translators, or AI-based tools, and the challenges encountered which determined the participant selection in the interview. Student translation outputs—produced with or without technology—were used as standards to assess students' translation quality which also influenced the participant selection for the interview. Thus, semi-structured interviews were conducted to capture students' perceptions and experiences.

The primary instruments used in this study consisted of an observation checklist, students' translation task sheets, and an interview guide. The observation checklist was designed to record students' use of translation technologies and classroom engagement. The translation task sheets served as performance evidence, enabling the comparison of translation outputs between those using and not using technological tools. Meanwhile, the semi-structured interview guide contained open-ended questions exploring students' experiences, perceived benefits, and challenges in applying translation technology.

Thematic analysis was conducted following (Squires, 2023) six-step framework: (1) familiarization with the data, (2) generation of initial codes, (3)

searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. (Lungu, 2022) coding strategies were also applied to enhance rigor in theme development. Key themes such as the benefits of technology, challenges faced, and effects on translation quality were refined into specific categories (e.g., "impact of technology on accuracy" and "technical barriers"). To strengthen reliability, two independent coders analyzed the data, and discrepancies were resolved through discussion.

This research adhered to strict ethical standards. Ethical approval was obtained from the Research Ethics Committee of the Faculty of Cultural Sciences, Universitas Khairun. Students as participants were informed about the study's objectives, procedures, and their right to withdraw at any stage without penalty. Written informed consent was obtained, and confidentiality was maintained through pseudonyms and secure data storage, ensuring compliance with institutional and international ethical guidelines.

RESULTS AND DISCUSSION

Findings

This section presents a thematic analysis of qualitative data collected through class observations, translation output, and then interviews. The goal is to explore students' perspectives with translation technology and how these tools influence translation quality. Overall, the findings reveal five major themes as follow:

1) Enhancement of Translation Accuracy and Consistency

One of the most consistently reported benefits of technology was its positive impact on accuracy and consistency in translation output, including:

a. Glossary and Terminology Management

CAT tools such as MemoQ provided students with automated glossary features. These ensured that specific terminology, particularly in technical or legal texts, remained consistent across longer documents. For instance, during one classroom session, students translating a legal document using MemoQ exhibited significantly fewer inconsistencies in key legal terms (e.g., statutory, compliance, liability) compared to those working manually. When prompted during interviews, a student explained:

> "I didn't have to guess or re-translate difficult terms. MemoQ just pulled them from the memory, which saved time and made my work sound more professional."

This aligns with (Baker, 2018) & (Shadiev et al., 2024) assertion that CAT tools are instrumental in promoting terminological consistency.

b. Translation Memory (TM)

Translation memory allowed students to store and reuse previous translations, which was particularly useful for repetitive texts such as instruction manuals or policy documents. The TM system improved coherence and ensured standardized phrase usage throughout the text, as a student also stated:

> "I realized my earlier translations had slight wording differences, but with the memory tool, I kept it all uniform."

This not only supports consistency but also reduces cognitive load, allowing students to focus on more nuanced linguistic and cultural issues.

2) Improvement of Translation Efficiency and Time Management

Another central theme was the efficiency gained through technological tools, which helped students meet deadlines and improve workflow, including:

a. Speed in Draft Production

Machine Translation tools (e.g., Google Translate) were often used to generate quick drafts, especially for initial understanding of complex source texts. While these drafts required editing, students reported a significant time-saving benefit. In a simulated assignment, students had to translate a 1,200-word NGO report in three hours. Those using MT followed by post-editing completed the task with time to spare for polishing and reference-checking. Manual translators struggled to finish the text within the same timeframe, as a student using MT said:

> "Using Google Translate, I could quickly generate a rough draft and then focus on polishing. It cut my time almost in half."

(Urlaub & Dessein, 2022) emphasize that this increase in speed can be advantageous in real-world professional settings where time constraints are common.

b. Multitasking and Research Integration

A certain student also mentioned that using translation tools with integrated research functions (e.g., online dictionaries or corpus search) streamlined their workflow:

> "With just one click I could look up synonyms, grammar rules, or check parallel texts online. I didn't have to switch between ten tabs anymore."

This integrated environment enhances focus and contributes to better time management and overall workflow satisfaction.

3) Challenges and Barriers to Effective Technology Use

Despite the clear benefits, students also reported a number of obstacles to fully leveraging translation technologies, including:

a. Lack of Technical Proficiency

Many students expressed initial confusion and difficulty in navigating complex interfaces, particularly in CAT tools. They often relied on peers or trial-and-error learning due to a lack of formal instruction, as one of the students expressed that:

> "At first, I felt overwhelmed by CAT software. No one really taught us how to use it, so I was just clicking around trying not to break anything."

(Qassem, 2020) similarly identifies limited training as a core barrier to successful technology integration.

b. Software Accessibility and Infrastructure

Some students faced practical limitations, such as not having access to licensed software or facing compatibility issues with their personal devices, as one of them asserted that:

> "We had to use a free version with limited features. It was frustrating because I couldn't save the memory or upload full documents."

This digital divide raises concerns about equitable access and calls for institutional investment in educational technology resources.

c. Language Inaccuracy in Machine Output

Students frequently noted that while MT tools provided a starting point, the output was often too literal, lacking in fluency and contextual sensitivity, one of them is:

> "The sentence looked fine structurally, but the meaning felt off. Like, it didn't sound natural in Indonesian."

This concern echoes the caution from (Hosseini, 2021) against overreliance on MT, which may limit students' ability to engage critically with text and context.

4) Development of Post-editing and Critical Thinking Skills

The ability to critically evaluate and revise machine-generated translations was cited as a key skill emerging from the integration of technology in the classroom, including:

a. Error Detection and Correction

Students learned to detect issues in MT output, such as incorrect idioms, tone mismatches, or syntactic awkwardness. Post-editing thus became a learning activity in itself.

> "At first, I used to trust Google Translate too much. Now, I spend more time checking tone, idioms, and whether the text feels natural."

This reflects the importance of post-editing, as noted by (Vieira, 2019), in cultivating deeper linguistic awareness and editing competence.

b. Development of Metalinguistic Awareness

Through post-editing, students became more attuned to grammatical structures, collocations, and semantic nuances in both the source and target languages.

> "I now notice small differences in meaning more. Like, how just one word can change the whole tone."

This metalinguistic development is crucial for translation quality and forms the foundation for high-level professional competency.

5) Pedagogical Implications and Curriculum Integration

Students and instructors alike identified the need for structured technology integration into translation pedagogy, including:

a. Need for Structured Curriculum Design

There was a strong call for technology to be taught systematically within the curriculum, not just introduced informally or as an optional skill.

> "We need a real course or at least a module just for translation tools—not just quick tutorials."

This aligns with (Moiseienko et al., 2021), that advocate for institutionalized digital literacy in translation education.

b. Balancing Technology and Human Judgment

While students appreciated the convenience of tools, they stressed the importance of maintaining their own linguistic and cultural judgment.

> "Technology helps, but I still need to use my brain. You can't translate poetry or emotion with a machine."

This suggests a pedagogical need to position technology as a supporting aid, not a replacement for human creativity, interpretation, and cultural sensitivity. Furthermore, the lack of collaborative technology tasks contrasts with the team-based workflows common in professional translation settings. The curriculum must evolve from a text-focused, solitary practice toward a project-based, tool-integrated model of instruction.

Table 1. Summary of Key Findings

Codes	Main Themes	Implications
Accuracy & Consistency	CAT tools enhance terminology management and coherence	Encourage use of translation memory and glossary tools
Efficiency	MT and integrated research tools speed up workflow	Promote technology-assisted drafting and review
Challenges	Students lack training and access; MT often lacks fluency	Institutions should provide training and licenses
Post-editing	Students develop metalinguistic and evaluative skills	Integrate post-editing modules in coursework
Curriculum	Call for structured, balanced tech integration	Revise syllabus to embed CAT/MT tools pedagogically

Discussion

The findings of this study highlight both the transformative potential and the critical challenges associated with integrating technology into translation education. This discussion situates these findings within broader educational and professional contexts, offering strategies as reflections on theoretical, pedagogical, and institutional dimensions.

1) Technology as a Cognitive and Pedagogical Scaffold

The use of CAT tools and MT technologies acted not merely as aids for productivity but as scaffolding mechanisms that supported learners in processing linguistic structures, managing terminology, and visualizing semantic patterns. (Vygotsky, 1978) theory, the Zone of Proximal Development (ZPD) as cited by (Zaretsky, 2021) is useful here, since translation tools enabled students to perform beyond their unaided capabilities, especially when they collaborated or received guided instruction. However, without proper instructional scaffolding, the potential of these tools was underutilized. Students often relied on trial-and-error approaches, which, while sometimes effective, led to frustration and inefficiency. This highlights the need for deliberate instructional design that supports graduated autonomy, where students progress from guided use to critical independence.

2) Balancing Technological Efficiency with Critical Competence

Central tension emerged between technological efficiency and the development of critical translation competence. While students acknowledged that technology saved time and improved consistency, many also recognized its limits in rendering tone, cultural nuance, and stylistic subtleties. This reinforces the claim by (Hosseini, 2021) that overreliance on digital tools can undermine deeper cognitive engagement with texts.

To address this, translation curricula must emphasize critical post-editing, discourse analysis, and cultural contextualization. In other words, while tools handle mechanical aspects, humans must remain the decision-makers in interpreting context and ensuring appropriateness. Encouraging reflective practice—such as keeping translation logs or comparison exercises—could help students become more conscious of their interpretive decisions.

3) Unequal Access and the Risk of a Digital Divide

Findings also underscore the risk of a digital divide in translation education. Some students lacked access to full-featured CAT tools due to licensing restrictions or hardware limitations. This inequality is not merely logistical—it risks reinforcing skill gaps between students who are digitally equipped and those who are not. As (Shadiev et al., 2024) argue, democratizing access to translation technologies is essential for equity in training future professionals.

Institutions must therefore take proactive steps to provide licensed software, offer lab facilities, and integrate open-source or affordable alternatives (e.g., OmegaT, MateCat) into teaching. Furthermore, instructors should design tool-agnostic learning outcomes that focus on transferable skills such as segmentation, terminology management, and post-editing—regardless of the specific platform used.

4) The Role of Metacognition and Self-Regulated Learning

The development of metacognitive awareness—students' ability to reflect on and regulate their translation process—emerged as a crucial outcome of technology use. Students who engaged in post-editing or compared manual and machine-generated outputs displayed higher awareness of their choices and errors.

This supports (Zimmerman, 2002) of self-regulated learning, as cited by (Kesuma et al., 2020) where learners plan, monitor, and evaluate their own performance. Translation technologies can enhance this when embedded in tasks that prompt reflection, such as peer review, error analysis, or justification of translation choices.
Educators should thus create assignments that require students to articulate their decision-making processes, especially when revising machine-generated drafts. These activities not only improve translation quality but also deepen learners' engagement with linguistic and ethical aspects of translation work.

5) From Classroom to Industry: Bridging the Professional Gap

Finally, the study revealed that students perceived translation technology as essential for their future careers, yet many lacked confidences in using it at a professional level. This points to a broader pedagogical challenge: bridging the gap between classroom learning and industry standards.
Professional translators are expected to manage large translation memories, work within specialized domains, and deliver under tight deadlines using advanced tools. Translation programs must prepare students for these realities by simulating real-world translation environments, incorporating project-based learning, and inviting industry practitioners to share workflows and expectations.

Furthermore, competencies such as collaboration, version control, and quality assurance—which are integral in industry contexts—should be introduced early in training. Curricular alignment with industry certifications (e.g., SDL Certification, ATA readiness) could also enhance students' employability and readiness.

6) Reframing the Translator's Identity in a Technological Age

A subtle but important insight from the findings was a shift in how students perceive their roles as translators. In early stages, some felt displaced by MT—expressing concern that "machines do the job faster." However, as their post-editing skills and critical awareness developed, they began to reassert their value not as text producers but as language mediators, evaluators, and co-creators of meaning.

This evolving identity is consistent with (O'Brien, 2024) notion of the augmented translator that focuses on a professional who partners with technology but adds irreplaceable value through judgment, adaptation, and cultural literacy. In this light, the role of translation education becomes not just to teach skills, but to shape adaptive professionals who can confidently navigate the ever-changing digital landscape of multilingual communication.

Furthermore, students began to view themselves as editors, negotiators of meaning, and co-creators, responsible not only for textual transfer but also for quality assurance and audience alignment. For example, some participants noted that they felt "more like reviewers than translators" when working with MT outputs—an observation that underscores a paradigm shift in translation roles.

The findings align with prior research emphasizing that translation technologies enhance consistency and efficiency while preserving the need for

human interpretation (Baker, 2018; Kenny, 2019; Vieira, 2019). The role of scaffolding reflects Vygotsky's ZPD framework (Vygotsky, 1978; Zaretsky, 2021) and supports Hosseini's (2021) and Moiseienko et al.'s (2021) call for guided autonomy in translation learning. Students' metacognitive engagement parallels Zimmerman's (2002) and Kesuma et al.'s (2020) accounts of self-regulated learning. The evolving translator identity observed here mirrors O'Brien's (2024) "augmented translator" concept and Gough's (2019) view of adaptive professionalism, highlighting the balance between technological competence and critical judgment.

The findings also carry significant implications for translation pedagogy and professional preparation. Pedagogically, translator training demands a re-evaluation of what it means to "train a translator." Educators must go beyond language equivalence and introduce students to industry-relevant mindsets: resilience in facing imperfect tools, ethical decision-making in tool use (e.g., confidentiality in cloud MT), and professionalism in interacting with project briefs, clients, and collaborative platforms. Technology must be reframed not as a threat, but as an opportunity to redefine the human role in multilingual mediation. In sum, the modern translator is no longer just a bilingual intermediary but a multimodal language expert—one who engages in cognitive, cultural, and technological negotiation to deliver context-sensitive and user-focused translations. The classroom, then, becomes a place where this identity can be cultivated not by resisting technology, but by teaching students how to partner with it ethically, critically, and creatively.

CONCLUSION AND RECOMMENDATION

This study explored the multifaceted role of technology in enhancing students' translation quality within university-level classes. Using participatory observation, interviews, and thematic analysis, it found that tools such as CAT, Machine Translation, and AI-driven applications improve accuracy, consistency, and efficiency—provided students possess sufficient digital literacy, access, and pedagogical support. While technology offers cognitive and practical scaffolds, challenges such as over-reliance, cognitive overload, and unequal access persist. These findings call for a pedagogical shift: technology should be embedded systematically in translation curricula, emphasizing post-editing, critical decision-making, and reflective practice to prepare students for professional demands.

The study also highlights the need to redefine the translator's identity as an augmented linguist—a professional who partners with technology while applying cultural insight, ethical awareness, and human creativity. To strengthen technology integration, educators should gradually introduce translation tools, pair them with critical pedagogy, and design reflective translation tasks. Institutions must invest in tool access, offer targeted workshops, and collaborate with industry to ensure curricular relevance. Students, meanwhile, should approach technology as a collaborator, not a substitute, by engaging in post-editing and peer-based translation projects.

Future research should examine long-term impacts of sustained tool use, cross-linguistic differences in effectiveness, and the influence of emerging AI systems on translation pedagogy.

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