



## The Impacts of Computer-Assisted Translation Tools on Learning Autonomy of Students in English Translation Courses

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**ABSTRACT:** Computer-assisted translation (CAT) tools have played an important role in professional translation work. Nevertheless, integrating CAT tools in translation training effectively has remained a conundrum in educational institutions. This research investigates the impact of CAT tools on the learning autonomy of English-majored students in translation courses. Several CAT tools were employed in the training process of 64 students majoring in English translation for 10 weeks. The Learner Autonomy Perception Questionnaire was used to collect quantitative data for pre-test and post-test. Qualitative data was also collected from 15 individual interviews. Findings reveal that the integration of CAT tools has positive impacts on components of learner autonomy, including belief about teachers' role, metacognitive knowledge, metacognitive skills, and freedom, but it has no significant influence on motivation. Furthermore, although CAT tools facilitate opportunities to foster self-confidence, independence of learning and critical thinking skills, they may cause an over-reliance on technology and a lack of creativity and sense of ownership. Accordingly, several teaching implications are drawn in this study.

**KEYWORDS:** Computer-Assisted Translation, English-majored students, Learner autonomy, Technology tools, Translation training.

### INTRODUCTION

Computer-Assisted Translation (CAT) has become an effective tool, especially in the age of Artificial Intelligence (AI). While machine translation normally automates the translation of short texts, CAT tools are able to deal with lengthy and complicated documents by integrating translation memories, glossaries, format recognition, consistency, and collaborative translation processes (Christensen & Schjoldager, 2016). These tools have improved the productivity of translators by allowing them to focus on content rather than technical details, which makes them crucial for the modern working style of translators. Having the ability to master CAT tools is now essential for those aiming for a career in translation, rather than just a bonus (Karpíńska, 2017).

Even though there is a strong need for it, several universities still focus on traditional translation methods in their courses, leading to students who lack advanced skills in utilizing CAT tools. This leads to a disparity between the educational objectives and the actual needs of the workforce (Batineh & Tenaijy, 2024). In addition, when students familiarize themselves with technology tools, they may become over-reliant on those tools which may hinder their ability to translate independently without technical assistance. Additionally, excessive dependence on technology may harm students' academic proficiency, as their critical thinking and problem-solving skills important for hands-on tasks may not be developed. This dependence may also obstruct the development of language skills, causing students to lack capacity to handle complicated translation tasks without technology support (Sayem, 2012; Reena, 2015). Therefore, translation training programs have been facing big challenges in balancing the training of technology skills with the facilitation of self-directed learning. Due to the aforementioned issues, the main purpose of this research is to examine the impacts of Computer-Assisted Translation (CAT) tools on the development of learning autonomy among students majoring in English translation. By investigating both the functional and pedagogical aspects of CAT tool integration, this study aims to gain in-depth insights into the impacts of these tools on the autonomy of students in translation tasks. Accordingly, this study is an attempt to answer the following research questions:

- (1) How does the integration of CAT tools influence the LA of students majoring in English translation and interpretation?
- (2) What are students' perspectives on the use of CAT tools in their translation training?

This research may benefit several groups of stakeholders in translation education. Firstly, by examining the impacts of CAT tools on learning autonomy of English-majored students, this research may contribute to the literature on the use of CAT and other technology tools in education. Secondly, this study may benefit curriculum developers and instructors of translation. Although the ability to



master CAT tools is crucial in the labor market, educators still hesitate to integrate this construct into the curriculum. By providing in-depth insights into the use of CAT tools in the training process, this study may suggest strategies to develop updated translation training curriculums that balance the use of technology tools and independent skills. Finally, this research is an attempt to consult students of translation on how to take advantage of technology. By giving them suggestions on the appropriate use of CAT, this study may motivate them to practice with those tools without losing their independent skills.

## LITERATURE REVIEW

### The Concept of Learner Autonomy

Learner autonomy (LA) has been a key concept in education since it was first introduced by Holec (1981) as the ability to "take control of one's own learning." Using their personal resources and strategies, autonomous learners independently approach knowledge and deal with problems, regardless of the support of educators or on their own (Holec, 1981; Gremmo & Riley, 1995). This can give them more motives and encourage them to engage actively and deeply in positive learning behaviors. The idea of "individualization" and autonomous learning have become closely associated in recent years (Zhong, 2021), signaling a change in educational perspectives that emphasize personalized learning experiences catered to the requirements and preferences of specific students. Littlewood (1996) defined autonomy as a learner's "ability and willingness to make choices independently". Kashefian-Naeeni & Kouhpeyma (2020) further emphasized that "willingness depends on the motivation and confidence of the learner to take responsibility for the choices required". This demonstrates the fundamental link between LA and motivation because students with more self-directed learning tend to be more confident and motivated. Although there have been several changes in the concept of learning autonomy updated by scholars, its foundational principle of self-direct development of students has remained the same. The dynamic features of educational research, as well as the non-stop efforts of scholars to explore this construct in various settings, are reflected in this ongoing refinement.

### Components of Learner Autonomy

Several scholars have enriched the literature on LA by considering its major components. Nguyen and Habók (2021) developed a theoretical framework that highlights key elements of LA in which willingness plays a major role. Willingness to engage in autonomous learning comprises two components: beliefs about the teacher's role and motivation. While students who have a high level of LA expect their teachers to play a role as facilitators, students with a low level of LA expect their teachers to provide and explain everything in class (Nguyen and Habók, 2021). Regarding motivation, Houssami & Benattabou (2024) found a correlation between LA and intrinsic motivation. Learners who are allowed to control their learning process tend to be more motivated to engage in educational activities both inside and outside classroom settings. They can take ownership of their progress and become resilient during challenges in their learning.

Nguyen and Habók (2021) also identified capacity as a component of LA. The component of capacity is further divided into three sub-components, including ability, desire, and freedom. The first sub-component of ability includes knowledge and skills in learning. Skills consist of planning, monitoring, and evaluating their learning process, which can be typically mentioned as metacognitive skills. The component of desire refers to the intensity of effort to complete educational activities which can be activated by both internal and external factors such as interest in the subject matter, school requirements, or career prospects. The component of freedom is defined as opportunities to control their learning. This freedom can be constructed by specific agents in the learning process or by the educational environment (Huang and Benson, 2013). With the same notion, Lamb (2009) believed freedom can be embodied in observable tasks that allow learners to take charge of their own learning. Students can raise questions to foster their comprehension or give recommendations to their teachers, or make the choice of learning materials. Nevertheless, in Vietnam, because of the structured curriculum, students cannot choose their learning materials. They are not allowed to decide what they want to learn, so it limits their control over the content of their learning.

### CAT Tools in Professional Translation

Karpińska (2017) examined a wide range of articles and translators' forums to identify benefits and drawbacks of CAT tools in actual work. He found that CAT tools are useful for translating standardized documents. They might, however, put translators under cognitive strain and impede down their output. Additionally, in complex and very culturally rich texts, CAT methods lost some of their effectiveness. Mahfouz (2018) conducted semi-structured interviews to explore translators' viewpoints toward the use of CAT



tools in their actual work. He found that translators prefer CAT tools due to their terminology management and low cost. Interestingly, he found that translators with good computer skills tend to have positive opinions on the use of CAT tools, while those with more experience in translation tend to pay less enthusiasm toward the integration of CAT tools in their work. There were also mixed viewpoints regarding the impacts of CAT tools on translation quality and creativity.

Overall, CAT tools bring both advantages and disadvantages in professional translation as depicted in the aforementioned studies. Although technology can potentially foster many aspects of LA, the successful use of technology has been proven to require a certain level of autonomy available from learners and much technology-mediated learning is relatively restricted in its scope and quality (Reinders, 2018). In translation realm, while CAT tools can considerably facilitate productivity, especially with standardized texts, they can also impose cognitive strain and struggle with complicated and culturally nuanced translations. These findings underscore the importance of training programs that balance the use of CAT tool for productivity and the competence of manual translation for creativity.

## METHODOLOGY

### Research Design

In this research, the independent variable is the integration of CAT tools, and the dependent variable is LA in translation courses. This mixed-method research follows a one-group pretest-posttest design. Before the treatment, questionnaires were distributed to all 64 students to collect pre-test data. Then, the experiment stage was conducted within 10 weeks. During this stage, students utilized several CAT tools, including Matecat, Smartcat and SDL Trados Studio in their learning process to practice their own translation. At the end of this stage, questionnaires were distributed again to collect post-test data. Following that, 15 students were voluntarily and randomly selected to participate in semi-structured interviews to collect qualitative data.

### Setting and Participants

This study was conducted in an English translation course at a private university. This course aimed to equip students with skills to translate actual business documents. The use of technology to support their translation process is allowed in this course to get students familiar with actual working ways in translation companies. This study involved 64 third-year students majoring in English translation. Their ages range from 20 to 23. They have an English proficiency level of approximately upper-intermediate (B2 in the CEFR). Any disparity in English proficiency among the students might not be considerable because it is compulsory for all of them to complete all four-skill English courses before enrolling in professional subjects.

### Instruments

The questionnaire used in this study was adapted from Nguyen and Habok's Learner Autonomy Perception Questionnaire. Their original questionnaire includes 87 items classified into 5 components of LA, including (1) beliefs about teacher's and learner's roles, (2) students' motivation and desire for learning, (3) metacognitive knowledge, (4) metacognitive skills and (5) freedom. Compared to the original version, some changes were made in the questionnaire of this current research. Firstly, the wording of several items was changed to be appropriate to the specific purposes of this study. Secondly, after examining the piloting results, 36 items were selected for the final questionnaire of this research. These adjustments resulted in Cronbach's Alpha of 5 components ranging from 0.780 to 0.896, and the Corrected Item-Total Correlation of each item ranged between 0.354 and 0.891, indicating good reliability. This research also employed 15 semi-structured interviews to gain qualitative data. The interviews aimed to discover the impacts of the use of CAT tools on their learning experiences, including their willingness to adopt CAT tools, differences between learning with and without CAT tools, and their perspectives towards the use of CAT tools in their courses.

### Ethical issue

For this experimental design, this research adheres to the ethical standards detailed in the Ethical Guidelines for Educational Research 4th edition, established by the British Educational Research Association. Firstly, permission was obtained from the school authorities, and consent letters were sent to all 64 students informing them about the research's purposes, duration, procedure, and students' roles. They were also informed that their information would be kept confidential in both the collected data and the final report, and their performance during the research would not influence their academic results at school. They could withdraw their participation at any time during the research. After obtaining the agreement of all students and the permission of their parents, the experiment stage began. All pre-test and post-test questionnaires were labeled with numbers to ensure manageability while maintaining confidentiality.



**Data Analysis**

Quantitative data from the questionnaires was input into SPSS version 27 for analysis. According to Ross & Willson (2017), a paired-sample t-test can compare the mean of a single group, examined at two different points in time. In this research, a paired sample t-test was performed before and after the treatment to keep track of and compare any changes in their learning autonomy. Analysis of the quantitative data was examined for statistical significance at the level of 0.05. For qualitative data analysis, the research used Quirkos version 2.5 for coding the interview data. The data was then analyzed using grounded theory. Grounded theory is a systematized approach that employs systematic methods, including theoretical sampling, coding, constant comparison, the identification of a core variable, and reaching saturation (Cohen et al., 2018). Thus, this approach can facilitate the identification and development of themes and patterns related to LA.

**FINDINGS AND DISCUSSION**

Quantitative data collected by the Learner Autonomy Perception Questionnaire before and after the intervention was analyzed to answer the first research questions, and qualitative data gained from 15 interviews was coded for main themes to answer the second research question. Generally, results from both kinds of data indicated obvious findings regarding the impacts of CAT tools on LA.

**Research Question 1: How does the integration of CAT tools influence the LA of students majoring in English translation and interpretation?**

For the first research question, a paired sample t-test was carried out to examine the changes in autonomy among participants. Analysis of the score was examined for statistical significance at the level of 0.05. Overall, the integration of CAT tools fosters most components of learning autonomy, except learning motivation. Detailed results are illustrated below.

Table 1 indicates the results of the paired sample t-test on the component of *belief about teachers' role*. It can be seen that the p values in the paired sample t-test of the pretest and post-test scores were lower than 0.05 in all 8 items. They reveal significant changes in their belief about teachers' role after the integration of CAT tools. Specifically, the mean scores declined considerably in the post-test. This indicated that there was a decrease in teachers' roles from students' beliefs due to the integration of CAT tools in the learning process, reflecting a growing sense of independence and active role in students. These results suggest that the use of CAT tools decreased the role of teachers considerably and fostered a greater sense of autonomy, leading students to take a more active role in their learning processes.

**Table 1. Paired Sample T-test Results on the Component of Belief about Teachers' Role**

Items	Data	Mean	Std. Deviation	p-value
The teachers should explain everything to us	Pre-test	3.20	.50	.004
	Post-test	2.96	.39	
The teachers should decide the objectives of my courses	Pre-test	4.35	.67	.003
	Post-test	4.10	.73	
The teachers should evaluate my learning.	Pre-test	3.56	.61	.004
	Post-test	3.29	.58	
The teachers should ensure my progress in learning	Pre-test	2.87	.51	.007
	Post-test	2.76	.42	
The teachers should decide how long to spend on each activity.	Pre-test	3.32	.61	.004
	Post-test	3.12	.37	
The teachers should ask us to share our views in class.	Pre-test	3.21	.57	.006
	Post-test	3.01	.51	
The teachers should correct all my mistakes.	Pre-test	3.23	.70	.002
	Post-test	3.01	.51	
The teachers should set my learning goals.	Pre-test	3.51	.66	.019
	Post-test	3.37	.60	



Table 2 illustrates the paired sample t-test results on the component of *motivation and desire*. Overall, it is obvious that the p-value of all 5 items remained higher than 0.05, which suggests that CAT tools did not have a significant impact on students' motivation and desire for learning. Therefore, it can be concluded that both intrinsic and extrinsic motivation were not influenced by the use of CAT tools in translation courses. These findings highlight that while CAT tools may enhance technical skills, their influence on students' motivational factors remains minimal.

**Table 2. Paired Sample T-test Results on the Component of Motivation and Desire**

Items	Data	Mean	Std. Deviation	p-value
I learn English Linguistics because it will help me to get a good job.	Pre-test	4.04	.76	.321
	Post-test	4.07	.74	
I learn this course because it's a required course at my university.	Pre-test	4.34	.56	.621
	Post-test	4.37	.48	
I learn English Linguistics because I find it very interesting.	Pre-test	3.62	.62	.370
	Post-test	3.67	.56	
When it comes to any tasks, I work very carefully to make sure I understand everything.	Pre-test	3.90	.52	.260
	Post-test	3.95	.54	
After I get my work back, I always read it again to correct my mistakes.	Pre-test	4.12	.70	.568
	Post-test	4.15	.59	

Table 3 presents the results of the paired sample t-test on the component of *metacognitive knowledge*, showing significant improvements in students' autonomy across all 11 items, as indicated by p-values lower than 0.05. Overall, the integration of CAT tools provided participants with valuable opportunities to better understand and reflect on their learning, including personal viewpoints, learning style, personality, responsibility, self-confidence, strengths and weaknesses. Additionally, they gained better strategies to manage and measure their learning. These changes indicate greater autonomy in their learning.

**Table 3. Paired Sample T-test Results on the Component of Metacognitive Knowledge**

Items	Data	Mean	Std. Deviation	p-value
I have my own opinions about learning English Linguistics and can defend them.	Pre-test	3.39	.63	.004
	Post-test	3.51	.64	
I use my learning style effectively.	Pre-test	3.29	.70	.003
	Post-test	3.45	.75	
I understand my own personality.	Pre-test	3.59	.79	.004
	Post-test	3.79	.59	
I'm responsible for the success of my learning.	Pre-test	3.65	.69	.017
	Post-test	3.81	.68	
I believe I have the ability to learn English Translation successfully.	Pre-test	3.35	.72	.007
	Post-test	3.57	.70	
I know my strengths and weaknesses in learning.	Pre-test	3.25	1.00	.004
	Post-test	3.48	.89	
I put great effort into learning.	Pre-test	3.17	.65	.004
	Post-test	3.34	.56	



I know how to set my own learning goals.	Pre-test	3.07	.80	.004
	Post-test	3.28	.70	
I know how to find my own ways to practice.	Pre-test	2.68	.75	.003
	Post-test	2.90	.77	
I know how to measure my progress	Pre-test	2.73	.80	.002
	Post-test	2.93	.81	
I know how to check my work for mistakes.	Pre-test	2.70	.88	.001
	Post-test	2.93	.83	

Table 4 indicates the results of the paired sample t-test on the component of *metacognitive skills*. The mean scores increased considerably in the post-test, with p-value remaining lower than 0.05 in all items. It can be concluded that the integration of CAT tools into the translation course had a profound impact on the development of metacognitive skills among English-majored students, thus fostering their learning autonomy. Key improvements include self-recognizing mistakes, identifying work requirements, making good use of materials, and self-reflecting on learning process. It is obvious that CAT tools facilitated greater reflection, self-assessment, and goal-setting, which are critical elements of autonomous learning. As students develop the ability to plan, monitor, and evaluate their learning more effectively, they become better equipped to navigate complex translation tasks, ultimately contributing to their overall academic success and independence.

**Table 4. Paired sample t-test results on the component of Metacognitive Skills**

Items	Data	Mean	Std. Deviation	p-value
Before doing any tasks, I think about the knowledge I have of the topics involved.	Pre-test	3.40	.72	.002
	Post-test	3.57	.73	
Before doing any tasks, I think about the skills I have to complete those types of tasks.	Pre-test	3.00	1.11	.004
	Post-test	3.20	1.07	
Before I do class work or homework, I analyze what's required.	Pre-test	3.00	1.08	.005
	Post-test	3.21	1.01	
I make good use of materials and resources when studying.	Pre-test	3.29	.86	.006
	Post-test	3.50	.73	
I notice my mistakes and use that information to improve.	Pre-test	3.42	1.02	.004
	Post-test	3.67	.87	
I try to complete things I've decided to do.	Pre-test	3.53	.81	.002
	Post-test	3.73	.73	
I think about my progress in learning.	Pre-test	3.35	.91	.004
	Post-test	3.54	.77	
I reflect on what I learn and look for something important.	Pre-test	3.39	1.03	.002
	Post-test	3.60	.88	

Table 5 illustrates the results of the paired sample t-test on the component of *freedom*. The results demonstrate that the integration of CAT tools significantly enhanced students' engagement in their learning environment by offering them opportunities to collaborate, discuss and make suggestions with their peers and teachers. These findings suggest that CAT tools contributed to a more learner-centered environment, promoting information exchange, critical thinking, and peer-supported learning. This learner-centered environment offers students a high sense of freedom, which is essential for fostering student autonomy and overall academic growth.



**Table 5. Paired Sample T-Test Results on the Component of Freedom**

Items	Data	Mean	Std. Deviation	p-value
I have chances to work with my classmates in activities in class.	Pre-test	3.23	1.01	.007
	Post-test	3.40	.93	
I have chances to discuss learning issues with my classmates	Pre-test	3.39	.90	.001
	Post-test	3.59	.79	
I have chances to ask the teachers questions when I don't understand something.	Pre-test	3.15	1.25	.002
	Post-test	3.32	1.15	
I have chances to make suggestions to the teachers.	Pre-test	3.07	1.25	.002
	Post-test	3.28	1.17	

The analysis above indicates that the integration of CAT tools significantly enhanced 4 out of 5 aspects of learning autonomy, except learning motivation. These findings suggest that although CAT tools are effective in improving students' technical translation skills, their impact on intrinsic motivational factors is limited. While students may become more proficient and efficient in handling translation tasks with the aid of technology, the tools themselves do not appear to significantly inspire greater enthusiasm or drive for learning. This implies that the use of CAT tools, while beneficial for skill development, may need to be supplemented with other strategies or instructional methods to foster and sustain student motivation and engagement in the learning process. Consequently, educators should consider integrating motivational frameworks alongside CAT tools to ensure a more holistic approach to fostering both technical competence and a strong, self-driven desire to learn.

**Research question 2: What are students' perspectives on the use of CAT tools in their translation training?**

The analysis of qualitative results, using grounded theory, reveals several key themes regarding the impact of CAT tools on students' learning experiences. Overall, CAT tools have positive impacts on self-confidence, independence in learning, and critical thinking skills. However, concerns were raised about the over-reliance on technology, lack of creativity and sense of ownership over the translation products.

*Enhanced Self-Confidence*

CAT tools significantly enhance students' self-confidence by streamlining the translation process through automation. It is reported that with features like terminology management and automated formatting, students could avoid "getting stuck in minor detail" (Participant 8), which allows them to focus on the major content of their translation. While this assistance enables the students to translate faster and more coherently, it also helps reduce their burden of managing much complex translation projects. This makes them feel more confident in handling not only the most difficult but also bigger translation tasks. This increased efficiency and reliability foster a sense of accomplishment, giving students the confidence to actively participate in translation projects and trust their abilities to deliver high-quality work.

*Development of Independence in Learning*

CAT tools play an important role in facilitating students' independence in learning by providing them with a variety of resources to complete translation tasks. Students reported that during their translation process, CAT tools offered them various translation options and suggestions, thus students can select an appropriate one for their work without much support from their instructors. This process may facilitate their independence because it emphasizes students' roles in making the final decisions for their own learning. The tools function as a supportive guide, allowing learners to revise, and edit independently, which reduces their reliance on external guidance. Gradually, students develop a sense of self-sufficiency and "feel more capable of handling tasks independently" (Participant 14) which enhances their overall learning autonomy.

*Enhance Critical Thinking Skills*

CAT tools were reported to play a crucial role in facilitating students' critical thinking ability. In fact, CAT tools provided several suggested translations for input text. Students "couldn't just pick one at random, but had to think carefully about each option, considering different factors" (Participant 1). Students had to carefully read, analyze, and select the most appropriate option. This procedure encourages students to critically examine several aspects of language such as the nuances of meaning, cultural equivalence, language accuracy, etc. By comparing different translation suggestions, students must apply critical thinking to



evaluate each option's strengths and weaknesses. Additionally, the demand to edit these suggested translations facilitates a deeper engagement with both input and output, prompting students to question assumptions, consider alternatives, and make informed decisions. In this way, the use of CAT tools not only aids in translation but also provides opportunities for students to develop and sharpen their critical thinking skills through active problem-solving and decision-making.

### *Over-Reliance on Technology*

While CAT tools offer numerous benefits, many students reported an over-reliance on the technology. It is admitted that: "I feel like I rely too much on the software, and I'm not sure if I could translate as well without it" (Participant 10) highlighting the growing dependency on technology. As students became familiar with automated suggestions made by CAT tools, they expressed a concern that their manual translation skills seemed to be weakening. This dependence can lead to rising doubts about their ability to produce accurate translations independently. Additionally, some participants worry that their linguistic competence and professional skills may deteriorate over time if they are not regularly practicing without digital support ("I sometimes worry that I'm not developing the actual translation skills I need" – Participant 7), reflecting the concern that essential skills may weaken. As a result, while CAT tools boost productivity, they also raise concerns about maintaining a balance between technological reliance and traditional translation skills.

### *Low Sense of Creativity and Ownership*

Many students feel that CAT tools limit their creativity, especially when working with elevated literary work or culturally rich texts. Since CAT tools often provide pre-formulated translation suggestions, students may not have many opportunities to brainstorm or create new values for their translation. This process of simply selecting from pre-formulated suggestions can make students feel constrained and prevent them from fully exploring the creativity of translation. They may struggle to maintain the artistic and interpretive elements that are essential when translating literature or culturally sensitive materials. In addition, the use of CAT tools can lead to a decrease in their sense of ownership over the final translation product. Many students reported that technology was responsible for a significant amount of their work. With CAT tools providing automated suggestions and pre-translated segments, students may consider their role as "a selector, not a translator" (Participant 15). The reliance on technology can blur the lines of authorship, leading students to feel less connected to the final output. This lack of personal investment can diminish their sense of accomplishment and pride in the work, reducing their motivation and deep engagement in the task.

## **IMPLICATIONS**

Drawing from results on beliefs about teachers' role and independence in learning, this research suggests that teachers should actively change their role when CAT tools are introduced in class. Due to the comprehensive support of CAT tools to students, they can work independently with less support from the teacher. It is not to say that the teacher has no role when CAT tools are applied. When it comes to complicated and culturally nuanced texts which CAT tools struggle to deal with, students still need support from their teachers. Teachers should act as consultants who advise students to select appropriate options suggested by CAT tools and edit the suggested translation creatively.

Concerns about over-reliance on technology and the reduction in creativity and ownership suggest that CAT tools should be introduced later in a carefully structured, scaffolded teaching approach. It is important for teachers to first ensure that students master essential language inputs and traditional translation skills by assigning tasks that focus on manual translation and creative problem-solving. It is not until students have developed a solid foundation in these constructs that CAT tools should be introduced. By prioritizing manual translation exercises before integrating CAT tools, educators can help students become more versatile translators who are capable of adapting to a variety of contexts without becoming overly dependent on technology. This approach fosters a balanced skill set, blending creativity with the technical proficiency required in modern translation.

## **CONCLUSION AND RECOMMENDATIONS**

Findings reveal that the integration of CAT tools has positive impacts on components of learner autonomy, including belief about teachers' role, metacognitive knowledge, metacognitive skills, and freedom, but it has no significant influence on motivation. Additionally, it also promotes self-confidence and independence in learning and critical thinking skills. However, concerns were raised about the over-reliance on technology, restricted creativity and sense of ownership. Thus, while CAT tools positively impacted technical skills and autonomy, they also highlighted the need for balancing technology use with creativity and independent thinking.





While CAT tools significantly enhance technical skills and promote key aspects of learning autonomy, their negative impact highlights the need for a more balanced and integrated approach in translation training. Among those findings, this study has several limitations. Firstly, the study focuses on a limited range of CAT tools, which may not fully represent the broader landscape of translation technology. Other research on different tools may reveal new impacts on students' autonomy and skills. Additionally, the research may focus on the short-term effects of CAT tools, without evaluating the long-term impact on students' translation skills, creativity, and autonomy. Longitudinal studies could offer deeper insights into how these tools affect skill development over time.

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