

Monitoring Post-Editing Habits of Student Translators via Screen-Recording

Halil İbrahim Balkul

Sakarya University, Turkey

Email: hbalkul@sakarya.edu.tr

How to cite:

Balkul, H. İ. (2026). Monitoring Post-Editing Habits of Student Translators via Screen-Recording. *International Journal of Linguistics and Translation Studies*, 7(3).240-255. <https://doi.org/10.36892/ijlts.v7i3.773>

ARTICLE HISTORY

Received:
08/07/2026

Accepted:
25/08/2026

Keywords:

machine translation, post-editing, translation market, translator education, student translators

Abstract

In the era of high technology, translation as a profession has been digitized as a direct consequence of the recent developments in machine translation (MT) and generative artificial intelligence (GenAI) research. In today's rapid flowing business environment, the sources and reliability of MT outputs are slightly questioned or ignored. Researchers also question whether professional translators and student translators should interact with MT software for better translation outputs. By adopting a focus group-oriented experiment with convenience sampling methodology, the study seeks to answer how student translators are exploiting or collaborating with MT software. Within the context of translator education, the study aims to uncover post-editing habits of student translators by making use of an online screen-recording tool. At the experimental stage of the study, seven student translators post-edit a literary text which was translated from English to Turkish by Google Translate. The obtained findings roughly reveal that student translators exhibit various post-editing habits which cannot be overgeneralized. Finally, the study concludes with recommendations for translation departments and translator trainers.

1. INTRODUCTION

Access to information sources has never been so easy throughout human history. Most people are bombarded with overt and/or covert data sets at different stages of daily life. The hustle and bustle of daily routines force people to make use of the readily available data without questioning the sources in the background. Digital contents created in foreign languages are readily accepted by individuals without scrutiny, as they often lack linguistic and cultural understanding.

Today, the websites of mainstream media sources and many other digital contents are automatically translated into foreign languages by MT software. MT is widely used by both ordinary users and language professionals, especially translators. Recent studies in the literature reveal that the use of MT among language service providers (see: Esselink, 2019; Kırıl, 2022; Sánchez Castany, 2024), professional translators (see: Kenny, 2022; Nunes Vieira & Alonso, 2020; Sycz Opoń & Paradowska, 2024) and translator trainers (see: Liu et al., 2022; Sánchez Castany, 2023) has considerably increased. A recent bibliometric mapping of Scopus-indexed post-editing scholarship (2018–May 2026) confirms this growth trajectory, reporting a 26.17% annual publication increase across complete publication years and a marked thematic

shift toward large language models and generative AI research since 2022 (Zakarnehi et al., 2026).

MT is also the focus of student translators. They not only make use of MT to speed up their translation assignments but also, they try to catch up with the technology-aided translation market that they would take a step in a near future. Pastor (2021) investigated the attitudes of student translators towards the use of MT and revealed both positive and negative attitudes towards MT among students. While the negative responses of the participants mainly centered on the possible replacement of human translators by MT software in the future and impracticality of MT use for certain text types, positive responses mostly focused on the premises presented by MT developers and the speed of translation activities thanks to MT software. Another study, conducted by Zhang (2023) in a qualitative manner, revealed that MT was more frequently employed as a resource for language learning and translation exercises, rather than functioning solely as a traditional translation tool. While students displayed eagerness to utilize MT as a translation aid, they remained skeptical about its potential implementation in educational environments. Their views on the quality of MT were generally neutral, yet they concurred that it significantly improved the speed of their translations and bolstered their self-assurance.

The present study aims at uncovering the post-editing habits of student translators in a qualitative manner. By administering a focus group study, this research monitors seven student translators' post-editing efforts and investigates their on-duty performances in two sessions by screen recording. During the experimental stage of the study, the following criteria were observed:

- a) Total time spent for each post-editing session,
- b) Reading the source text from the beginning to the end,
- c) Placing the source text to the MT software sentence by sentence, paragraph by paragraph or as a whole text,
- d) Post-editing the source text on the MT software or on the MS Word file.
- e) Assessing the MT output on the MT software,
- f) Feeding the MT software by providing alternative translation units,
- g) Using the option of choosing the best target translation solution on the MT software,
- h) Utilizing the MT software's online dictionary function.

Unveiling the translation process by analyzing screen recording of student translators has been used by some researchers in the field (see: Carl, 2012; Massey, 2017; Nwachukwu, 2023). Carl (2012) introduces Translog-II which was designed to record and analyze user activities (keystrokes, mouse events, and eye-tracking data) during translation tasks; however, the paper does not include empirical data referring to translator education. In a similar vein, Massey's (2017) paper reviews the existing research from Cognitive Translation Studies and puts forward a theoretical argument suggesting that translator education should evolve by using technological tools to uncover and rehabilitate cognitive skills of translation students. On the other hand, Nwachukwu's (2023) study investigates the cognitive workflows of translation students empirically in the African context. The findings of the study mainly reveal that the use of screen recorders in translation classes enable students to be aware of their strengths and

weaknesses during the translation exercises. Also, the study highlights that translator trainers can make use of screen recorders to monitor students' translation abilities and offer them pedagogical suggestions. Angelone's (2012) paper is also worth mentioning here since the study covers the detailed description and the use of screen recording in translator education. The author notes that screen recording is not only useful for teachers to observe and assess translation process of student translators but also a self-assessment tool for trainee translators to evaluate their translation performance. Besides, in the paper, we come across pedagogical suggestions and class activities to make use of screen recording effectively in translation classes.

After the brief introduction section to the research topic, the study is structured as follows: The second section tackles the dilemma of exploiting technology and its reflections in both translator training and the professional translation market. Then, the third section presents the details of the method of the research. The following section reveals the findings of the study, along with the implications to the relevant literature. Finally, the study concludes with the last section and puts forward some insights for further research in the field.

2. EXPLOITING TECHNOLOGY

As ordinary users of new technologies, we make use of technological devices in every corner of our lives and adapt them to our daily routines, in most cases, without questioning the background of those innovative gadgets. However, it is expected from the professionals to evaluate, analyze and critically examine the technologies they would use in their work flow before they integrate them into their businesses. Translators, as being one of the professional actors of the translation sector, are currently facing several challenges in the sector such as client-based problems (see: Aarikka-Stenroos, 2010), strict deadlines and unrealistic expectations from translation bureaus and clients (see: Havumetsa, 2012) and catching up with the state-of-the-art technologies in the sector (see: Ehrensberger Dow, 2023; Rothwell et al., 2023). Today it can be easily put forward that nearly all translations are somehow technology-assisted, rather than being delivered by pen and paper. In this regard, both translators and student translators are expected to be harmonized with the tech-driven translation sector. An important note to take into account here is that we should not train future translators who only consume technology unconsciously but the ones who also help technology develop.

Most professionals in the business life make use of technological equipment and do not care about the backyard of the development stages of those technologies. At this point, we only see the people who only consume the technology for their own sake and ignore every process making up this technology. The stages of technology life cycle, after a detailed literature review in Taylor and Taylor (2012), can be summarized as follows: a) introduction phase, b) growth phase, c) maturity phase, and d) decline phase. Here, the first stage refers to the birth of a technological tool which has been shaped by a deep market research and needs-analysis. The second stage, on the other hand, can be described as the infancy of a new technology and includes some strategic actions such as scaling operations, investing in quality improvements, and expanding market reach. In the third stage, new technologies struggle to meet emerging market demands with some improvements and try to reach as many customers as possible. Finally, in the last stage, there is a decline in the market demand for the technology due to more recent and sophisticated technologies. If the users of technological tools do not take part in the

aforementioned four stages, those people can only be considered as sole users of technology who only consume technology without considering the realities around.

From the angle of Translation Studies, it can be regarded as essential for translators and student translators to participate in the life cycle of translation tools if they want to be conscious users of those technologies. Also, translators and student translators could find prestigious employment opportunities or could work as technical editors, localization specialists and project managers in the translation sector only if they are competent and critical users of translation technologies. Exploiting translation technologies, on the other hand, can also be associated with disregarding the big picture that surrounds the gist of a given translation project and making use of a given technological tool to satisfy a client's demand as much as possible.

As a response to this changing landscape both in the industry and academia and in order not to be lost in this turmoil, large language models or simply monolingual and multilingual corpora can be examined. These technologies help human translators and MT software access more consistent translation solutions. In this paper, it is strongly advocated that translators and student translators support these technologies' development by providing feedback if they want more sustainable translation aids in the future. Since we know that some professionals and even the smart software today can help large language models develop. However, it should also be noted that feedback to come from language professionals such as linguists and translators would be more meaningful to feed translation technologies.

3. MACHINE TRANSLATION AND POST-EDITING AS A 21ST CENTURY SKILL FOR STUDENT TRANSLATORS

In a digitized traditional and virtual translation market, we no longer discuss the necessity of technological armors of translators. Instead, the recent research in the field of Translation Studies focuses on the implementation of MT skills into translator education. Trojszczak (2022) delves into a range of challenges faced in translator training, with a particular emphasis on three key areas that are vital for the development of trainee translators in terms of MT literacy. First, the author keynotes the importance of understanding how enhancements in MT technology affect the learning experiences and outcomes of these trainees. Second, the author points to the delicate balance between encouraging students to develop their independence and critical thinking skills while also acknowledging their growing dependence on MT software. Finally, the author underlines the necessity of guiding students to appreciate and utilize the distinct advantages that human oversight brings to the post-editing process.

Rico and González Pastor (2022) conducted a qualitative study and investigated translator educators' ideas on the role of MT in translator education. The data obtained from 17 translator trainers, after they were introduced a seminar on MT for two days, were classified into four main themes as follows: a) instruction and practice on MT received by educators; b) how MT works and what it entails, c) MT in the translation classroom; and d) professional aspects of MT. Apart from various insights for translator training, the study concludes with the following recommendations about the use of MT in Translation Studies departments: Translator educators ought to undergo formal training in MT, encompassing both theoretical and practical aspects, to effectively integrate this knowledge into their translation curricula. The overall pedagogy of MT should transcend a purely instrumentalist perspective that focuses solely on the technical features of the tool. By adopting this broader approach, educators can provide students with a comprehensive understanding of MT, highlighting the essential role of the

human element in the translation process. Furthermore, the education surrounding MT should reflect current practices within the professional realm, meaning that translation tasks should incorporate the use of MT at various stages. This necessitates a systematic strategy for teaching MT, aligning it with competence frameworks that extend beyond an instrumentalist viewpoint.

Post-editing of MT output is a process that we can handle in two main types, which are full post-editing and light post-editing. While full-post-editing covers many detailed processes in the machine translated output, light post-editing is a more superficial process. Hu and Cadwell (2016) compared and contrasted post-editing literature and investigated several post-editing guidelines. For light post-editing guidelines, the author examined four guidelines while he focused on five guidelines for full post-editing. The following criteria came foreground in that comparative study for light and full post-editing guidelines: a) accuracy, b) terminology, c) grammar, d) semantics, e) punctuation, f) spelling, g) syntax, h) style, i) restructure, j) culture, k) information, l) formatting, and m) others. However, it must be noted that punctuation and formatting were only included in full post-editing criteria.

In an early paper in the field, O'Brien (2002) set forth the skills that a post-editor needs and proposed an outline describing the essentials of a course about post-editing. By underlining the difference between translation process and post-editing process from the angles of the cognitive viewpoint and the practical viewpoint, the author lists major skills required from a post-editor as follows: a) knowledge of MT, b) terminology management skills, c) pre-editing / controlled language skills, d) programming skills, and e) text linguistic skills.

Ginovart Cid and Colominas Ventura (2020) conducted an overarching study and obtained both quantitative and qualitative data that would shed light on the use of post-editing in translator education by taking educators' opinions into account. In the quantitative phase of the study, the researchers obtained 54 online questionnaire replies from translator educators. The researchers focused on three essential topics in the questionnaire, which are: a) post-editing training elements, b) post-editing skills, and c) post-editing tasks. In the qualitative data collection phase, the researchers both examined 49 syllabi of translation schools worldwide and carried out an online interview with 49 translation teachers. While the syllabus analysis touched upon the representation of post-editing of MT in translation departments, the online interview mainly investigated educators' beliefs and attitudes towards the pedagogical aspects of teaching post-editing skills for student translators. Besides, Koponen et al. (2021) published a quite inspiring book investigating revision and post-editing in terms of industry practices and cognitive processes. In the above-mentioned book, post-editing has also been discussed in terms of translator training. Kalle Konttinen et al. (2021) examined the previously written literature and came up with a post-editing course suggestion for trainee translators. The authors also noted that revision and post-editing skills can be taught and applied not only in translation technology courses but also in project-based translation courses.

Yamada (2015) investigated the post-editing efforts of philology students and conducted an experimental study in a Japanese setting. A total of 43 students from two different universities participated in the study. The study aimed at assessing the potential of students to be employed as post-editors in the future. The author used three main criteria to assess the students' aptitudes towards post-editing, which are: perceived ease of task, editing quantity, and the quality of the final product. In the study, it was initially detected that 74% of the participants regarded post-editing as an easier activity than human translation from scratch. The study also stressed that

some students have potential to be employed as post-editors in the future; however, school grades and the aforementioned criteria should not be regarded as the sole requirements in the field. In a similar vein, Harto et al. (2022) conducted an empirical study to examine the post-editing efforts of students by administering a couple of different research methods such as focused-group discussion, survey, in-depth interview, and students' translation materials. The study, in a broad sense, uncovered that students' awareness of translation competence increased in the post-editing practices and the acquired post-editing skills might enable students to find different employment opportunities in their future career.

Post-editing machine-translated literary texts has also attracted the attention of scholars in the literature. Moorkens et al. (2018) worked with a group of six professional translators, each possessing expertise in literary translation. They undertook English-to-Catalan translations under three distinct methodologies: translating from the scratch, post-editing neural MT, and post-editing statistical MT. They offered insights through questionnaires and interviews both prior to and following the translation process. Although all participants expressed a preference for translating from scratch—primarily because it allows for greater creative freedom without the limitations imposed by segment-level segmentation—less experienced translators indicated that they found the suggestions provided by MT software to be beneficial. Şahin and Gürses (2021) examined the dynamics between MT, student translators and experienced translators during a literary translation assignment. The participants engaged in the post-editing of a passage from a classic novel by Charles Dickens, translating it into Turkish with the aid of a MT software of their preference. An examination of the post-edited texts, along with the participants' responses to survey questions and interviews conducted with professional translators, indicates that MT is still significantly distant from being a fundamental component of literary translation practices for the English–Turkish language pair.

Macken et al. (2022) noted that the studies investigating the usability of MT in translating literary texts reveal that the primary challenges identified in literary neural MT include various forms of mistranslations, issues related to coherence, and the problems concerning style and register. In a more recent study, Rothwell et al. (2023) investigated the applicability of literary texts in MT software in a detailed way. Involving 14 chapters, the edited book not only focuses on the topic from stylistic point of view, but also from the angle of text linguistics, MT and literary studies.

4. METHODOLOGY

The study was designed as an experimental research and seven senior students studying at Translation & Interpreting Department at Sakarya University, Türkiye took part in the research on a voluntary basis. Since the aim of the study was neither to reach a generalization nor create a large-scale experiment, seven participants were accepted as the sampling group by adopting a convenience sampling methodology. As Rahi (2017) stated, convenience sampling refers to the method of gathering data from a study group that is easily accessible to the researcher.

In the text selection process, it was aimed to choose a text which would possibly require a detailed / full post-editing and contain some cultural elements that would be hard for MT software to figure out. For the sake of the research aims of the study, a moderate-length literary text was chosen by the author to be translated by student translators. The source text, which is a short story written in English, included 487 words and was published on an online literary

blog by a native speaker of English. The text was also the winner of the writing contest organized by the aforementioned online literary blog.

Google Translate was selected as the MT software to be used during the experimental sessions of the study since it is a world-wide known MT software and the participants made use of it in their previous learning environments.

Each participant in the research was provided with a consent form before the application of the study and asked to read and sign the form to obey ethical rules of the host institution. After planning the date of the study with the participants, they were requested to bring their laptops with them into the meeting room.

On the meeting day, the study group gathered and was informed about the steps of the experimental study step by step by the author. Initially, student translators were assured that the study was not a part of their class assessment and the instructor sent the source text to the participants via email. After receiving the email, the students were informed about the details of the study and the following post-editing brief was given:

- 1- Each student will record their screen workflow by using Online Video Cutter website¹, which is a free online service of screen recording and does not require paid or unpaid membership.
- 2- Students will only be responsible for post-editing of the translated text by Google Translate.
- 3- On no account will students translate the source text from scratch.
- 4- It will be forbidden for the participants to use any other translation aids such as translation memory tools, online dictionaries and MT software but Google Translate.
- 5- Students will obey the post-editing instructions noting that they are supposed to post-edit the MT output for Turkish people who are interested in literature. Translation direction will be from English to Turkish.
- 6- Each student is expected to hand in their post-editing assignment in 40 minutes.

Except for a few questions about the technical details, the students started and completed their post-editing assignment before the due time. They emailed their post-editing assignment with a screen-recorded video file. Before student translators left the meeting room, they were asked to conduct the same post-editing assignment at home with no time restriction, the same instructions and the same source text. The instructor asked the students to email their assignments with a screen-recorded video file until the following day. With that instruction, it was aimed to compare and contrast the workflow of the post-editing activities with and without time restriction, along with the personalized study atmosphere. The researcher wanted the students to perform post-editing on the MT outputs of the same source text. Here, the goal was not to examine the post-editing preferences of the students with different source texts, but to determine if they could adopt the tailored post-editing setting and offer the researcher a range of feedback choices.

All participants emailed their documents on time and the instructor started to analyze the post-edited translation documents and video files. The names of the participants were kept

¹ <https://online-video-cutter.com/tr/screen-recorder> (Accessed on 23.04.2025)

anonymous in order not to violate ethical rules and students were coded as P1, P2, P3... and so forth.

5. FINDINGS AND DISCUSSION

Student translator's post-editing habits & preferences are displayed in this part of the study by providing necessary information. Initially, total time spent for the 1st and 2nd post-editing sessions are provided below in Table 1.

Table 1. Total Time Spent for Each Post-editing Session

Participant	1st session	2nd session
P1	17 minutes	18 minutes
P2	16 minutes	14 minutes
P3	20 minutes	23 minutes
P4	17 minutes	21 minutes
P5	33 minutes	50 minutes
P6	33 minutes	57 minutes
P7	17 minutes	14 minutes

As stated in the Methodology section, students were given 40 minutes for the 1st post-editing session while they were free to post-edit the source text as long as they wanted in the 2nd session at home. The results display that while three of the participants spent more time on the post-editing activity in the 2nd session, the total amount of time that most participants (four) spent on the 2nd session of the post-editing assignment decreased. The present finding might be interpreted from different angles. Firstly, it can be concluded that students felt more comfortable in the 2nd session and got familiar with the source text and the post-edited version of the source text; therefore, they completed the post-editing assignment faster than in the 1st session. On the other hand, it can be argued that student translators did not take the advantage of flexible time in the 2nd session and wanted to finish the assignment as soon as possible. At this point, the other findings of the study might pave the way for readers to comment on the topic in a comparative way.

The first criterion to examine in this part of the paper is related to whether the participants read the source text from the beginning to the end before they post-edited the MT output. The findings reveal that only one of the students read the whole text before the post-editing process in the 1st session; however, he did not read the source text before the 2nd session. The rest of the participants did not read the source text from the beginning to the end neither in the 1st session nor in the 2nd one. Indeed, the present finding is parallel to the conclusions reached by some researchers in the field of translation, claiming that translators do not pay much attention to the source text in the MT process (see: Koglin, 2015; Lu & Sun, 2018). The finding clearly reveals that the participants are not aware of the fact that comprehending the source text is not only an indispensable part of the translation process but also the post-editing process. Also, the participants need to learn the significance of reading the source text from the beginning to the end before they start the post-editing process (Dai & Liu 2024). Last but not least, as embarked by Volkart et al. (2022), if student translators are not encouraged to read the source text before the post-editing process, they are inclined to neglect the source segments in the translation assignment and conduct a monolingual post-editing service. Although there are studies indicating the relative success of monolingual post-editing (see: Koehn, 2010; Mitchell

et al., 2013), this paper supports that bilingual post-editing is more effective in terms of the post-editing product. Because bilingual post-editing enables post-editors to read the source text and compare the machine translated output with the source message. With this view, the present paper shares the same perspective with Koponen (2016).

The second criterion to be investigated in the study is whether the participants translated the source text on the MT software sentence by sentence, paragraph by paragraph or as a whole text, which examines the preferences of student translators regarding MT use. Table 2 displays the findings on this topic below.

Table 2. Text Processing on the MT Software

Participant	1st session	2nd session
P1	Paragraph by paragraph	Paragraph by paragraph
P2	Whole text	Whole text
P3	Whole text	Whole text
P4	Sentence by sentence	Sentence by sentence
P5	Paragraph by paragraph	Paragraph by paragraph
P6	Paragraph by paragraph	Paragraph by paragraph
P7	Paragraph by paragraph	Paragraph by paragraph

The obtained findings in Table 2 reveal that most of the participants (n: 4) process the source text on the MT software paragraph by paragraph while only one of them adopted a sentence-by-sentence technique and two of them processed the whole text on the MT software at once. In this case, it can be interpreted that student translators are more into seeing the MT output at paragraph level. For the student who chose to work on the MT software sentence by sentence, it can be put forward that he wants to proceed in the post-editing process in a more analytical way. On the other hand, for the ones choosing to see the MT output at the whole text level, it can be inferred that these students may prefer to see the general overview of the output and then go on the post-editing process. Indeed, the present finding indicates that student translators have different tendencies while approaching the text in the MT process. Here it would be irrational to praise or discredit the preferences of the students since translator education should pave the way for autonomous learning as long as student translators adhere to the norms of the translation process.

To learn the post-editing preferences of student translators, the next step was to observe whether the students post-edit the source text on the MT software or on the MS Word file. Table 3 below shows the obtained findings.

Table 3. Post-editing the source text on the MT software or on the MS Word file

Participant	1st session	2nd session
P1	on the MS Word file	on the MS Word file
P2	on the MS Word file	on the MS Word file
P3	on the MS Word file	both on the MT software and on the MS Word file
P4	on the MS Word file	on the MS Word file
P5	both on the MT software and on the MS Word file	both on the MT software and on the MS Word file

Participant	1st session	2nd session
P6	on the MS Word file	on the MS Word file
P7	on the MS Word file	on the MS Word file

The findings shown in Table 4 mainly imply that student translators tend to post-edit the MT output on the MS Word file. On the other hand, there is also a student who preferred to post-edit the translation output both on the MT software and on the MS Word file in the 2nd session, and another student adopted this kind of practice both in the 1st and the 2nd sessions. For the majority of the students, it can be asserted that they find themselves more comfortable with working on the MS Word file since the MS Word file provides the users with grammar and spelling support. In the contrary case, if students initially post-edit the translation output on the MT software, students will have to re-edit the translation on the MT software. To review the case for the students preferring to post-edit the translation on the MT software, it can be put forward that these students may wish to see the source text and the machine-translated output on the same screen for a better comparison of the source text and the target text. However, we need more empirical data at this point to make more overarching comments.

The next two criteria to reveal MT use preferences of student translators are interrelated to each other. While the first one investigates whether the students marked the MT output as *good translation* and *bad translation* on Google Translate, the second one examines whether the students offered new translation solutions and gave feedback to the software developers. Table 4 presents the results of the first situation below.

Table 4. Assessing the MT output on the MT software

Participant	1st session	2nd session
P1	No	Yes
P2	No	No
P3	No	No
P4	No	No
P5	Yes	Yes
P6	No	No
P7	Yes	Yes

Google Translate enables users to give feedback about the translation output and it is assured that the provided feedback will be used to improve translation quality. In this regard, users can evaluate the output as *good translation* or *bad translation*. Before delving into the discussion of the obtained findings, it would be more rational to touch upon the labels of *good translation* and *bad translation* on Google Translate. As stated in seminal papers by pioneer translation scholars in the fields of translation criticism and translation quality assessment such as Schaffner (1997), and House (2001), it is not realistic to assess the quality of translation as good or bad. Instead, we need to look whether the translation output fits the needs of the end user and functions as a translated document in the target culture. In this regard, the terms so-called *adequate translation* and *acceptable translation* offered by Gideon Toury and Hans Vermeer seem more appropriate in the modern understanding of translation although the aforementioned authors put different meanings on the suggested terms. While Toury (1995) notes *adequate translation* as the translation output which is more compatible with source culture writing norms and views *acceptable translation* as closer to the target culture norms,

Reiss and Vermeer (1984) see these terms differently. For them, *adequate translation* implies closeness to target culture norms and *acceptable translation* refers to compatibility with source culture norms.

Going back to the findings of the present criterion, Table 5 exhibits that four students did not give any feedback in this manner while two students provided the MT software perpetual feedback both in the 1st and 2nd sessions. On the other hand, it is visible that P1 did not give any feedback in the 1st session; however, he marked *bad translations* in the 2nd session. The present finding reveals that most of the students are not interested in marking the translation output as *good* or *bad*. Time restriction might be considered as a determining factor at this point; however, these students did not evaluate the translation output in the 2nd session, either. The case of P1 can be interpreted from this direction since he evaluated the translation output in the 2nd session, which let him post-edit the machine-translated output without time restriction.

The forthcoming research criterion was related to feeding the MT software by providing alternative translation units. Here it is aimed to investigate whether student translators help Google Translate improve and let other people make use of their translation solutions in a limited and non-restricted time. Table 5 reveals the obtained findings on this issue.

Table 5. Feeding the MT software by providing alternative translation units

Participant	1st session	2nd session
P1	Yes	Yes
P2	No	No
P3	No	Yes
P4	No	No
P5	Yes	Yes
P6	No	No
P7	Yes	Yes

The findings in Table 5 present that providing alternative translation units on the MT software is a bit more common among student translators than assessing the MT output as *good* or *bad*, which is presented in Table 5. On the other hand, it cannot be put forward that the feedback level is not as high as the expected level by the author. Particularly, the author anticipated that the students would feed the MT software much more in the 2nd session since they did not have any time restriction. Nevertheless, the obtained findings display that time is not a factor changing MT use preferences of student translators. Besides, the present findings imply that student translators are more inclined to exploit MT, rather than giving feedback and assisting the software to be improved. When Table 4 and Table 5 are critically compared, it can be visible that P2, P4 and P6 did not provide any kind of feedback, be it assessing the MT output or suggesting alternative translation solutions.

The next criterion to be examined in the study is using the option of choosing the best target translation solution on the MT software. Google Translate provides users with more than one translation solution in the target language. When the user clicks on the target language segment on the translated text, Google Translate displays different translation alternatives in the target language which include slightly different wording. Since the participants in the study have already been instructed with this function of Google Translate, the author wanted to observe

whether the students embrace having different translation alternatives and choosing the most appropriate one. This kind of act is also praised by Pym (2003) as the minimalist definition of translation competence. Accordingly, Table 6 presents the obtained findings in this part of the research.

Table 6. Using the option of choosing the best target translation solution on the MT software

Participant	1st session	2nd session
P1	No	No
P2	Yes	Yes
P3	Yes	No
P4	Yes	Yes
P5	No	Yes
P6	Yes	Yes
P7	Yes	No

Table 6 explicitly reveals that almost all of the students, except for one, somehow used the target sentence alternatives offered by Google Translate either in the 1st session or 2nd session and even both sessions. The present finding entails that student translators seem cautious about the translation solutions on the MT software and take other translation solutions into consideration. While three students embraced different translation solutions in both sessions, three of them skipped this act in either 1st or 2nd session. At this point, it would be convenient to compare and contrast Table 7 and Table 3 which investigated whether student translators processed the source text on Google Translate sentence by sentence, paragraph by paragraph or as a whole text. The results display that P2 and P3 who preferred to process the whole text at once on Google Translate and P4 who preferred a sentence-by-sentence method are more likely to make use of different translation solutions on the MT software. On the other hand, there is not a meaningful relationship between embracing different translation solutions and entering the source text on the MT software in a paragraph-by-paragraph method for P1, P5, P6 and P7.

The next criterion in the study examines whether student translators utilized the MT software's online dictionary function. As noted in the Methodology Section of the study, the students in the focus group were not allowed to use any other translation technologies including online monolingual or bilingual dictionaries. Here the author aims to see whether the students make use of the online dictionary function of Google Translate because the source text included at least five words that most students are unfamiliar with. Table 7 displays the obtained findings in this part of the study.

Table 7. Utilizing the MT software's online dictionary function

Participant	1st session	2nd session
P1	No	No
P2	No	No
P3	No	No
P4	Yes	Yes
P5	Yes	Yes

Participant	1st session	2nd session
P6	Yes	Yes
P7	No	No

Table 7 shows that only three students used the online dictionary function of Google Translate but four of them did not. The present finding reveals that the online dictionary function of the MT software is not popular among the participants. Besides, screen recordings of the post-editing process in the study indicate that some of the students looked for some unknown words on Google Translate; however, they wanted to be sure of the unknown words' meanings. Thus, they consulted online dictionaries such as *Longman Dictionary of Contemporary English Online* and *Tureng* although it was forbidden to make use of such dictionaries in the study. At this point, it is worth noting that the students are not aware of the advanced online dictionary function of Google Translate. Google Translate's online dictionary not only provides the target language equivalent of an unknown word but also provides users with synonyms of a given word, usage frequency of that word and sample sentences in which that word is included.

6. CONCLUDING REMARKS

The advance in MT and AI-supported translation solutions made the translation business highly tech-driven. In this regard, the integration of translation technologies into translator education became a necessity, not a preference. This study aimed at observing the habits of translation students while working on a MT software, namely Google Translate. In the study, student translators were asked to post-edit a literary text, a short story, and record their translation workflow on a screen-recording software in order to monitor their post-editing preferences in an experimental manner. Student translators were asked to post-edit the source text on Google Translate in two different sessions. In the first session, they were in the classroom with limited time. Nonetheless, in the second session, they were at home and were free to spend as much time as they wanted to spend on the post-editing activity. The students' recordings were evaluated by eight criteria identified by the author and some conclusions, which can be inspiring for translator education, were drawn. The findings generally imply that student translators have different habits of post-editing, and personalized learning styles should be embraced by translation teachers as long as students carry out post-editing briefs carefully and responsibly. In addition, the findings reveal that student translators are not very keen on supporting MT software by sending systematic feedback and offering volunteer human labor. On the other hand, translation students tend to make a choice among the different translation solutions presented by the MT software.

The present study strongly recommends that professional translators and student translators help MT develop as long as they would like to make use of and exploit MT software in the future. Translation teachers and directors in translation schools should keep up with the technological development in the translation & language industry by equipping their students with the necessary technological skills and support student translators to make use of translation technologies in a more sensitive way by assisting translation tools to be improved with their feedback. Furthermore, translation programs should incorporate dedicated modules on MT feedback mechanisms so as to enable translation students to get prepared for the translation market. From pedagogical point of view, translation teachers should design activities that explicitly teach students to read and analyze the source text before post-editing. In this way, blind trust in MT output can be prevented and some core textual skills in the

translation process such as understanding and analyzing can be assured for translation students. In addition, this paper suggests that MT output will be much more consistent and acceptable in the future if the people who are inside the translation sector spend more time in improving translation technologies. In other words, translation market stakeholders had better play a more active role in the development of MT and AI supported translation if they want to have a say in the tech-driven language & translation market.

The study has some limitations like some other experimental studies in humanities. Although the students were assured that their performances in the study would not be evaluated as a classroom activity and reflected on their grades in the class, some students may feel themselves in stress and not exhibit their real performances. Moreover, the total participant body was seven in the study and the obtained findings cannot be generalized and reflect the habits of other translation students in post-editing sessions. On the other hand, the insights obtained from the study might be inspiring for other translation teachers who would like to equip their students with more organized post-editing skills. Another possible drawback of the study might be that the author could not carry out interviews with the participants related to their post-editing preferences due to the time restriction. For this reason, some descriptive data related to the post-editing process of students might be missing. Another limitation of the study is that only a literary text was used in the classroom exercise. Other text types such as informative, operative or audio-visual texts can be used in further studies. In this way, potential relationship between students' post-editing habits and the use of different text types might be investigated. Last but not least, the study examined the post-editing skills of student translators on Google Translate MT software. Hence, it is unclear how student translators would perform post-editing skills by using different MT software such as Yandex Translate, DeepL Translate, and many others.

In further research in the field, similar focus group studies and discussions can be conducted with professional translators and post-editors. In this way, the productivity level of translators and post-editors can be observed. Also, similar studies can help both professionals in the translation industry and student translators observe their own working habits in the post-editing assignments. Here, it can also be asserted that such screen-recording studies can be used as a means of self-assessment in both translation market and translator education. Besides, in future studies, the opinions of translators, post-editors and student translators about post-editing preferences can be obtained via questionnaires and interviews in order to see the rationale behind their certain habits of post-editing. Also, quality assessment procedures can be applied to explore student translators' post-editing habits in the further research in the field. To conclude, it can be keynoted that more empirical studies can shed light on the MT usage habits of translators and translation students, and help more sustainable translation outputs emerge.

REFERENCES

- Aarikka-Stenroos, L. (2010). Translating is a service and service business, too—building up “business know how” in translating studies. *Current trends in translation teaching and learning*, 3, 3-33.
- Angelone, E. (2012). The place of screen recording in process-oriented translator training. *RITT (Rivista Internazionale di Tecnica della Traduzione)* 14: 41–55.
- Carl, M. (2012). Translog-II: a program for recording user activity data for empirical reading and writing research. In *Proceedings of the Eighth International Conference on Language Resources and Evaluation*, European Language Resources Association, Istanbul, Turkey. May 2012, 4108-4112.

- Dai, G. & Liu, S. (2024). Towards predicting post-editing effort with source text readability: An investigation for English-Chinese machine translation. *The Journal of Specialised Translation*, (41), 206–229. <https://doi.org/10.26034/cm.jostrans.2024.4723>
- Ehrensberger-Dow, M., Delorme Benites, A., & Lehr, C. (2023). A new role for translators and trainers: MT literacy consultants. *The Interpreter and Translator Trainer*, 17(3), 393–411.
- Esselink, B. (2019). Multinational language service provider as user. In Michael O'Hagan (Ed.), *The Routledge handbook of translation and technology* (pp.109-126). Abingdon: Routledge.
- Ginovart Cid, Cl. & Colominas Ventura, C. (2020). The MT post-editing skill set: Course descriptions and educators' thoughts. In Maarit Koponen, Brian Mossop, Isabelle Rober & Giovanna Scocchera (Eds.), *Translation Revision and Post-Editing* (pp.226–246). London and New York: Routledge.
- Harto, S., Hamied, F. A., Bachrudin, M. & Setyarini, S. (2022). Exploring undergraduate students' experiences in dealing with post-editing of machine translation. *Indonesian Journal of Applied Linguistics*, 11(3), 696-707. <https://doi.org/10.17509/ijal.v11i3.42825>
- Havumetsä, N. (2012). *The client factor: A study of clients' expectations concerning non-literary translators and the quality of non-literary translations* (PhD thesis). University of Helsinki, Helsinki, Finland.
- House, J. (2001). Translation quality assessment: Linguistic description versus social evaluation. *Meta*, 46(2), 243-257. <https://doi.org/10.7202/003141ar>
- Hu, K. & Cadwell, P. (2016). A comparative study of post-editing guidelines. *Baltic Journal of Modern Computing*, 4(2), 346–353.
- Kenny, D. (2022). Human and machine translation. In Dorothy Kenny (Ed.), *Machine translation for everyone: empowering users in the age of artificial intelligence*. Language Science Press.
- Kıral, N. (2022). The attitudes of translation companies operating in Turkey towards the use of machine translation systems by translators. In Halil Ibrahim Balkul (Ed.), *Dilemmas in machine translation* (pp.103-124). Lambert Publishing.
- Koehn, P. (2010). Enabling monolingual translators: Post-editing vs. options. In Ron Kaplan (Ed.) *Human Language Technologies: The 2010 Annual Conference of the North American Chapter of the Association for Computational Linguistics*. Stroudsburg PA (pp. 537-545). Association for Computational Linguistics.
- Koglin, A. (2015). An empirical investigation of cognitive effort required to post-edit machine translated metaphors compared to the translation of metaphors. *Translation & Interpreting* 7, 126-141.
- Koponen, M. (2016). Is machine translation post-editing worth the effort? A survey of research into post-editing and effort. *The Journal of Specialised Translation*, 25(2), 131-148.
- Liu, K., Kwok, H. L., Liu, J., & Cheung, A. K. (2022). Sustainability and influence of machine translation: perceptions and attitudes of translation instructors and learners in Hong Kong. *Sustainability*, 14(11), 6399.
- Lu, Z., & Sun, J. (2018). An eye-tracking study of cognitive processing in human translation and post-editing. *Foreign Language Teaching and Research*, 50(5), 760-769.
- Macken, L., Vanroy, B., Desmet, L. & Tezcan, A. (2022). Literary translation as a three-stage process: Machine translation, post-editing and revision. In the 23rd *Annual Conference of the European Association for Machine Translation*, 101-110. European Association for Machine Translation.
- Massey, G. (2017). Translation competence development and process-oriented pedagogy. In John Schwieter & Aline Ferreira (Eds.), *The handbook of translation and cognition* (pp. 496-518). John Wiley & Sons.
- Mitchell, L., Johann, R. & O'Brien, S. (2013). Community-based post-editing of machine-translated content: monolingual vs. bilingual. In Sharon O'Brien, Michel Simard & Lucia Specia (Eds.), *Proceedings of the MT Summit XIV Workshop on Post-editing Technology and Practice*.
- Moorkens, J., Toral, A., Castilho, S., & Way, A. (2018). Translators' perceptions of literary post-editing using statistical and neural machine translation. *Translation Spaces*, 7(2), 240-262. <https://doi.org/10.1075/ts.18014.moo>
- Nunes Vieira, L., & Alonso, E. (2020). Translating perceptions and managing expectations: an analysis of management and production perspectives on machine translation. *Perspectives*, 28(2), 163-184. <https://doi.org/10.1080/0907676X.2019.1646776>
- Nwachukwu, J. (2023). Observing trainee-translators' user activities with screen recorder: A process-oriented approach. *Journal of The Linguistic Association of Nigeria*, 26(2), 128-146.
- O'Brien, S. (2002). Teaching post-editing: a proposal for course content. In *Proceedings of the 6th EAMT workshop: Teaching machine translation*. Manchester, 14-15 November 2002
- Online Video Cutter. (2025). Accessed on 23.04.2025

- Pastor, D. G. (2021). Introducing machine translation in the translation classroom: A survey on students' attitudes and perceptions. *Tradumàtica tecnologies de la traducció*, (19), 47-65. <https://doi.org/10.5565/rev/tradumatica.273>
- Pym, A. (2003). Redefining translation competence in an electronic age. In defence of a minimalist approach. *Meta*, 48(4), 481–497. <https://doi.org/10.7202/008533ar>
- Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, 6(2), 1-5. <https://doi.org/10.4172/2162-6359.1000403>
- Reiss, K. & Vermeer, H. (1984). *Grundlegung einer allgemeinen Translationstheorie*. Tübingen: Niemeyer
- Rothwell, A., Moorkens, J., Fernández-Parra, M., Drugan, J., & Austermuehl, F. (2023). *Translation tools and technologies*. Routledge.
- Rothwell, A., Way, A. & Youdale, R. (2023). *Computer-assisted literary translation*. Routledge.
- Rico, C. & González Pastor, D. (2022). The role of machine translation in translation education: a thematic analysis of translator educators' beliefs. *Translation & Interpreting: The International Journal of Translation and Interpreting Research*, 14(1), 177-197.
- Sánchez Castany, R. (2023). Integrating technologies in translation teaching: a study on trainers' perceptions. *The Interpreter and Translator Trainer*, 17(3), 479-502. <https://doi.org/10.1080/1750399X.2023.2237330>
- Schaffner, C. (1997). From 'good' to 'functionally appropriate': Assessing translation quality. *Current Issues in Language & Society*, 4(1), 1-5. <https://doi.org/10.1080/13520529709615476>
- Sycz Opoń, J. & Paradowska, U. (2024). How external and internal factors affect translators' source preferences—survey results. *Perspectives*, 1-28. <https://doi.org/10.1080/0907676X.2024.2342263>
- Şahin, M. & Gürses, S. (2021). English-Turkish literary translation through human-machine interaction. *Tradumàtica tecnologies de la traducció*, (19), 171-203. <https://doi.org/10.5565/rev/tradumatica.284>
- Taylor, M. & Taylor, A. (2012). The technology life cycle: Conceptualization and managerial implications. *International Journal of Production Economics*, 140(1), 541-553. <https://doi.org/10.1016/j.ijpe.2012.07.006>
- Toury, G. (1995). *Descriptive Translation Studies and beyond*. Amsterdam, Philadelphia: John Benjamins.
- Trojszczak, M. (2022). Translator training meets machine translation—Selected challenges. In, Barbara Lewandowska & Marcin Trojszczak (Eds). *Language use, education, and professional contexts. Second language learning and teaching*. Springer.
- Volkart, L., Girletti, S., Gerlach, J., Mutal, J. D. & Bouillon, P. (2022). Source or target first? Comparison of two post-editing strategies with translation students. *Journal of Data Mining and Digital Humanities, Towards robotic translation?* 1–7. <https://doi.org/10.46298/jdmdh.9067>
- Yamada, M. (2015). Can college students be post-editors? An investigation into employing language learners in machine translation plus post-editing settings. *Machine Translation*, 29, 49-67. <https://doi.org/10.1007/s10590-014-9167-7>
- Zakareh, B., Ahmed, Z. A. T., & Alrefae, Y. M. H. A. (2026). Post-editing in the age of artificial intelligence: a bibliometric analysis of scopus-indexed journal articles (2018–May 2026). *Cogent Arts & Humanities*, 13(1), 2719067. <https://doi.org/10.1080/23311983.2026.2719067>
- Zhang, J. (2023). Exploring undergraduate translation students' perceptions towards machine translation: A qualitative questionnaire survey. In *Proceedings of Machine Translation Summit XIX, Vol. 2: Users Track*, 1-10.