Translation process in concurrent, collaborative workflows

Özlem Temizöz
Joanna Gough

revista.tradumàtica
tecnologies de la traducció

Özlem Temizöz
Centre for Translation Studies, University of Surrey;
o.temizoz@surrey.ac.uk;
ORCID: 0000-0002-7595-009X

Joanna Gough
Centre for Translation Studies, University of Surrey;
joanna.gough@surrey.ac.uk;
ORCID: 0000-0003-0796-7145

Abstract

Technological innovations bring about new practices, urging translators to transform their work processes. Our knowledge of these processes is based on research, which is related to the tools/workflows prevalent at the time. The advances in technology necessitate constant re-examination of the translation process to understand rapidly changing, contemporary translation production methods. The present article gives us a glimpse into how the translation process changes when translators work collaboratively and concurrently within technological environments that enable synchronous horizontal and vertical collaboration on a single text. It presents reported data on process-related aspects from an online survey of 804 translators. Findings suggest that, in the concurrent workflow, the translation process is very different compared to when an entire text is translated by an individual translator. Notable process-related changes reported include a shift in the distribution of time and tasks across the phases of the translation process, limited self-revision during the drafting phase, earlier segment confirmation, precluded end-[self-]revision, and decreased research time.

Keywords: Translation process, translation technologies, collaborative translation, concurrent translation.

Resumen

Las innovaciones tecnológicas generan nuevas prácticas, impulsando a los traductores a transformar sus procesos de trabajo. Nuestro conocimiento de estos procesos se basa en investigaciones relacionadas con las herramientas y flujos de trabajo prevalentes en cada momento. Los avances tecnológicos exigen una reevaluación constante del proceso de traducción para comprender los métodos de producción contemporáneos y en rápida evolución. El presente artículo ofrece una visión de cómo está cambiando el proceso de traducción cuando los traductores trabajan de forma colaborativa y comercial en entornos tecnológicos que permiten la colaboración horizontal y vertical sincronizada en un único texto. Se presentan datos sobre aspectos relacionados con el proceso, obtenidos de una encuesta en línea realizada a 804 traductores. Los hallazgos sugieren que, en el flujo de trabajo simultáneo, el proceso de traducción es muy diferente al realizado de manera individual por traductores en un texto completo. Entre los cambios más

Rebuda: 15 de novembre de 2023 / Acceptació: 4 de novembre de 2024 / Publicació avançada: 20 de desembre de 2024

destacados: una redistribución del tiempo y las tareas a lo largo de las fases del proceso de traducción, una autorrevisión limitada durante la fase de redacción, una confirmación de segmentos más temprana, la eliminación de la autorrevisión final y una reducción del tiempo dedicado a la investigación.

Palabras clave: proceso de traducción, tecnologías de traducción, traducción colaborativa, traducción comercial.

Resum

Les innovacions tecnològiques generen noves pràctiques, impulsant els traductors a transformar els processos de treball. El nostre coneixement d'aquests processos es basa en investigacions relacionades amb les eines i fluxos de treball prevalents en cada moment. Els avanços tecnològics exigeixen una reevaluació constant del procés de traducció per entendre els mètodes de producció contemporanis i en ràpida evolució. Aquest article ofereix una visió de com està canviant el procés de traducció quan els traductors treballen de manera col·laborativa i comercial en entorns tecnològics que permeten la col·laboració horitzontal i vertical sincronitzada en un únic text. S'hi presenten dades sobre aspectes relacionats amb el procés, obtinguts d'una enquesta en línia realitzada a 804 traductors. Els resultats suggereixen que, en el flux de treball simultani, el procés de traducció és molt diferent de l'efectuat de manera individual per traductors en un text complet. Entre els canvis més destacats: una redistribució del temps i les tasques al llarg de les fases del procés de traducció, una autorevisió limitada durant la fase de redacció, una confirmació de segments més precoç, l'eliminació de l'autorevisió final i una reducció del temps dedicat a la recerca.

Paraules clau: procés de traducció, tecnologies de traducció, traducció col·laborativa, traducció comercial.

1. Introduction

It has been more than a decade since it was suggested that the future of translation would be more akin to human-assisted machine translation (HAMT) (Fiederer and O'Brien 2009) due to the advancement of machine translation (MT) and the increasing need for professional translation. The growing demand for global multilingual communication necessitates continuous technological innovations within the language industry. These innovations drive the expansion and diversification of language technologies and workflows, impacting the overall production of multilingual texts and, in turn, translation processes and practices. The first major change to how translators work came with personal computers, digital term banks, and online resources. This was followed by the integration of translation memories (TMs) and MT into translators' workstations. More recently, we have been witnessing work settings that involve a combination of advanced technologies, such as neural MT and artificial intelligence (AI), especially generative AI, along with TMs and customised glossaries, as well as cloud-based collaborative translation technologies. All of these have not only changed translators' workstations but also introduced new dynamics into multilingual text production, placing significant demands on translators to learn new skills and adapt to changing work processes. While some innovations are incremental, others are more disruptive, transforming translators' work processes. The way this rapidly evolving landscape within the language industry is affecting the translation process has been understudied and deserves more empirical investigation.

So far, substantial research has explored the effects of TMs and MT on translators and the translation process. However, emerging workflows, involving complex and multi-layered work environments augmented by advanced technologies in translation management systems (TMSs) and collaborative translation on cloud-based translation platforms, call for new research to understand contemporary translation production methods. Gough et al. (2023) and Gough and Temizöz (2023) investigated one such innovative workflow: concurrent translation on collaborative platforms. This workflow involves commercial translation production conducted by multiple translation professionals using technologies that enable synchronous collaboration on a single text. Despite the growing prevalence of this approach, the impact of distributed and synchronous collaborative translation on the translation process has not yet been sufficiently studied.

While, to our knowledge, no observational study exists, a survey of 804 translators has provided insights into how such workflows affect translators' experiences and the translation process. The broader impact of collaborative workflows on translators' experiences was explained in Gough et al. (2023), and the socially relevant aspects of remote collaborative work in translation are discussed in Gough and Temizöz (2023). The present article focuses on the perceived translation process-related issues in these collaborative workflows, exploring the previously unexamined effects of distributed and synchronous translation on individual translators' processes.

2. Previous research on the translation process

To date, research has investigated various aspects of the translation process. Some authors have dealt with cognitive processes to investigate the acquisition of translation competence (PACTE 2003; Alves and Gonçalves 2007), while others have described cognitive profiles of translators with different levels of expertise (Alves 2005; Magalhães and Alves 2006; Braga 2007, cited in Alves and Vale 2009) or compared the processes of professional and non-professional translation (Jääskeläinen 1989; Jakobsen 2002, 2003; Schaeffer 2019). The interplay between the translation process and time pressure (Liparini Campos 2005), ergonomics (Ehrensberger-Dow and Hunziker Heeb 2016), and the use of digital resources (Hvelplund 2019) have also been among the aspects explored so far. Additionally, a significant amount of research has looked at the impact of translation technology on the translation process (Alves and Liparini Campos 2008; Christensen and Schjoldager 2011; O'Brien 2009; O'Brien, O'Hagan and Flanagan 2010). The present study contributes to this research by offering insights into perceived changes to the process as affected by AI-enabled workflows, as well as the concurrent and synchronous nature of translation production.

2.1. Translation phases

One aspect of the translation process which has been a subject of considerable research is the phases in which a translation is produced. The translation process has usually been described as consisting of three main phases, involving initial preparation, draft

translation production, and the translator's self-revising of the first target text (TT) draft (Englund Dimitrova 2005; Jakobsen 2002; Mossop 2000). The terminology used to refer to these phases varies among scholars, although they define them similarly. For example, Krings (1986, cited in Englund Dimitrova 2005: 21) terms them "Vorlauf, Hauptlauf and Nachlauf" (pre-run, main-run, and post-run). Jääskeläinen (1999) names them the "pre-writing, writing and post-writing" stages, whilst Mossop (2000) labels them "pre-drafting, drafting, and post-drafting". Jakobsen (2002) uses the terms "initial orientation, drafting, and [self-]revision", and Norberg (2003, cited in Englund Dimitrova 2005: 21) calls them "Planungsphase, Rohübersetzungsphase and Revisionsphase" (the planning, rough translation, and [self-]revision phases). The present article utilises Mossop's (2000) terminology (pre-drafting, drafting, and post-drafting) to refer to the phases of the translation process.

In the first phase, translators familiarise themselves with the translation task; in the second phase, they draft the first version of the TT; and in the third phase, they revise their own translation after they complete the first draft (Mossop 2000: 40). Despite the general agreement on the existence of these three main phases, it has been found that there is individual variation among translators in their distribution of time and tasks across these phases and that this can be linked to the translators' profiles (Dragsted and Carl 2013; Englund Dimitrova 2005; Jakobsen 2002) or the task (Asadi and Séguinot 2005). For example, some translators spend more time on the pre-drafting phase, reading the entire source text (ST) to get acquainted with the context, while some others head-start drafting the translation (Carl, Dragsted and Jakobsen 2011), skipping the pre-drafting phase. Moreover, some scholars argue that these three main phases can be further subdivided (Englund Dimitrova 2005: 21-22) and the post-drafting phase can be composed of several subphases (ibid.: 86); others have concluded that there is an additional phase in the translation process (Johnsen 2014). In a similar vein, Göpferich (2010: 10) says, "there may be one or several post-phases depending on the number of [self-]revisions (post-phase 1, post-phase 2, etc.) in the TPPs."[1] In a case study, Borg (2018) even identified five phases: phase 1 (preparing the groundwork — the comprehension phase), phase 2 (producing a draft translation), phase 3 (redrafting and fine-tuning the draft), phase 4 (polishing the style of the TL), and phase 5 (self-proofreading). However, this is limited to the context of one translator in literary translation.

Studies have reported that the distribution of time and tasks across the phases might change from one translator to another (Dragsted and Carl 2013; Englund Dimitrova 2005; Jakobsen 2002; Mossop 2020), and individual translators might be consistent in their own approach to translation production regardless of text complexity (Borg 2018; Dragsted and Carl 2013). On the other hand, Asadi and Séguinot (2005: 537) suggest that "translation strategies are not necessarily linked to the translator, but rather the task" (see also Mossop 2020: 191), and translators might switch between strategies during the translation task; e.g. prospective thinkers might change their strategy after translating the first paragraph, to gain a more global understanding of the text.

[1] TPPs: translation process protocols.

Apart from translator- or task-related differences, research reveals that workflows and the work environment could also be factors affecting the distribution of time and tasks across the translation process phases (Gough et al. 2023). Further, as Englund Dimitrova (2005: 22) points out, most of the terms used to describe the phases and the tasks in the translation process are based on "empirical data, which potentially makes them unsuitable in view of the analysis of future data, which may differ in nature", mainly due to being produced in a different work environment. The rapid expansion of language technologies impacting the micro- and macro-environments of translators (O'Hagan 2013: 503) makes it necessary to revisit translation production processes, which have so far been described using data collected in available workplace conditions.

A prominent change in the translation process brought about by language technologies is the segmentation of the ST into smaller chunks and the availability of previously translated parts of the text, first introduced by TMs. Pym (2011: 1) suggested that translation technologies such as TMs, MT, and collaborative TMSs "are altering the very nature of the translator's cognitive activity", and the segmented nature of the text they have brought about affects "the memory capacity in such a way that the paradigmatic (vertical processing of the text segments) is imposed more frequently on the syntagmatic (horizontal and linear processing of the text)" (parentheses added). Segmentation has been found to alter the translation process by shifting the translator's focus to small chunks of the text rather than the text as a whole unit, which is argued to standardise and homogenise the translated language, thereby limiting variability in language and text types (O'Brien 2012). Moreover, segmentation is claimed to disrupt linearity and cohesion, as well as to lead to contextual clues being missed (Pym 2011). O'Brien (2009) suggests that TM user interfaces might also lead to voluntary and involuntary attention shifts during the translation process. Further, Christensen and Schjoldager (2011) found that segmentation affects the translation process across the planning, drafting, and post-drafting phases, with the greatest impact being on the drafting phase. In their study, segmentation changed text processing patterns, reduced comprehension of the ST, affected the transfer of meaning and led to micro-strategies being copied from previous translations. They also found that "the production phase comprises more (other-)revision than actual production" (ibid.: 128).

In addition to scholars, voices in the language industry have pointed out that the translation process phases are changing due to the contemporary work environment. Fairman (2024) highlighted a notable change in translation production within the cloud-based TMS Bureauworks (BWX). He illustrated this transformation by elucidating the augmented functionalities operating within the system, showcasing its multi-layered work environment. He suggested that when translators work on BWX, "everything can take place in a single interaction". According to Fairman (2024), in this workflow, the preparation and self-revision elements in the translation process are introduced in run time, when the translator is drafting the segments pre-processed by a combination of TMs, MT, glossaries, and AI. These elements might include making the necessary changes, such as correcting spelling and grammar errors, fixing mistranslations, and employing the appropriate register. The premise is that through the automatic distribution of the

preparation (pre-drafting) and self-revision (post-drafting) elements into the drafting phase, the translator can arrive, in a shorter time, at a similar quality in a single phase, i.e. drafting. Among others, this example shows that, at the time of writing, we face AI-supported editing environments where TMs, MT, glossaries, and possibly other sources of information, including generative AI (GenAI) and large language models (LLMs), facilitate a production model that merges the three phases into one phase (drafting). Evidently, this new form of drafting phase is different from traditional drafting, where the first draft of the translation is produced from scratch. Rather, it is an extension of postediting TM and MT segments with the support of glossaries and LLMs, where the need for from-scratch text generation by the translator is still limited, and GenAI can be used to generate options to help the translator select the most appropriate source in a given context. Even before the recent developments in AI and its incorporation into TMSs, Pym (2011: 1) pointed to translating activity being "enhanced in its generative moment" by the translation technologies prevalent at the time, yet also "potentially retarded in the moment of selection, where the values of intuition and text flow become difficult to recuperate", owing to the availability of options generated by such technologies. So, in this new TM/MT and AI-supported drafting phase, the translator still needs to select from among the suggested TM/MT alternatives, edit them, and, beyond that, prioritise and select the suggestions provided by the GenAI rather than generating parts of the text.

Gough et al. (2023) and Gough and Temizöz (2023) also signalled a change in the translation process in the relatively new workflow model developing within the context of collaborative translation on cloud-based platforms, which is concurrent translation (CT). CT can be defined as "a translation production activity carried out for commercial reasons, by multiple, predominantly trained translation professionals, using technologies that enable horizontal and vertical collaboration,[2] but only in a synchronous way, i.e., working on one text concurrently" (Gough et al. 2023: 47). The most salient aspect of CT is its synchronous aspect, and research shows that "it is the biggest understudied technological change that has affected collaborative work in translation" (Gough and Temizöz 2023: 287). With the primary goal of increasing translation output speed, content is simultaneously provided to multiple translators for translation. This might happen either by splitting a text and assigning chunks of segments to individual translators (split and assign — SA) or by allowing translators to select segments on a first come, first served basis (first come, first served — FF) (Gough et al. 2023: 54-55). Whilst either of these workflows can be adopted as the main approach, some workflows might contain both configurations, which makes investigating workflows across platforms challenging (Gough and Temizöz 2023: 272). The above-mentioned aspects of the translation process which are evidenced to be affected by segmentation are found to be compounded by the synchronicity and further vertical segmentation of texts in CT (Gough et al. 2023). This is mainly because the CT workflow not only involves the segmented ST chunks but also

[2] Horizontal collaboration: collaboration between translators working at the same time within and across languages. Vertical collaboration: collaboration between translators, editor, project manager, subject-matter experts and client (CSA 2021: 7).

generates groups of segments and either assigns them to individual translators or releases individual segments randomly to multiple translators on a first come, first served basis, thereby creating further segmentation of the ST, which needs to be processed synchronously. The present article will report on how the translation process is affected by the CT workflow, based on the qualitative and quantitative analysis of data collected from 804 translators.

2.2. Revision and research

Revision is an important aspect of the translation process to maintain quality. It could refer to translators checking and editing their own work (self-revision) in various phases of the translation process or to the procedure where language professionals check and edit the work of other translators (other-revision). Both are regarded as key competencies for translators (Kasperavičienė and Horbačauskienė 2020; Kelly 2010; Mossop 2011; Robert et al. 2017) and prerequisites of professional translation (Mossop 2020). The international standard ISO 17100 (2015: 10) requires translators to perform "self-revision of the target content for possible semantic, grammatical and spelling issues, and for omissions and other errors, as well as ensuring compliance with any relevant translation project specifications". Mossop (2020: 190) states that, both for freelance and in-house translators, self-revision may be the only check a translation receives due to the absence of other-revision procedures. Moreover, he underlines that "in some organisations, senior staff translators operate like freelancers in the sense that their self-revised translations may go straight out to the client" (ibid.: 182). Translators integrate self-revision in different phases of the translation process. Mossop (2020: 191) identified five tasks translators perform in translation production: (1) interpret the ST, (2) compose the translation, (3) conduct the research needed for tasks 1 and 2, (4) check the draft translation for errors and amend if necessary, and (5) decide the implications of the brief.

Research is an important part of self-revision and the translation process. Depending on the text and the translator's style, research could be embedded in the pre-drafting phase to understand the ST, the drafting phase to produce the translation, and/or the post-drafting phase to check and correct the first draft of the translation (Mossop 2020: 191). Gough (2016; 2018: 10) identified five different translation-oriented research styles based on the cognitive and physical attributes of translators' work environments. She found that "on average, freelance translators can spend as much as 30% of their translating time on interactions with external resources" researching information. She adds that "with translators' increased use of content-leveraging technologies resulting in higher throughput expectations, these research needs can potentially be more demanding, and therefore time-consuming" (Gough 2018: 10). Hvelplund (2017: 76) found that translators' research and digital resource consultation constitute nearly 20% of their total translation time (around 25% of the total task time for terminologically challenging texts and 12% for literary texts). Further, Enríquez Raído (2013: 180) found that "translation quality is related to the amount of time and effort invested in translation processing - of which documentary research is an essential part". Since researching takes

up a substantial part of the translation process, impacts the output quality, and could be conducted across different phases of translation production, what happens to it with the changing landscape is worth investigating.

In addition to self-revision and the research it entails, other-revision plays a major role in translation quality assurance (Mossop 2024). ISO 17100 (2015: 10-11) requires that "a person other than the translator [...] shall examine the target language content against the source language content for any errors and other issues, and its suitability for purpose". Mossop (2024: 319) points out that the approach to other-revision can "depend on differing institutional requirements and budgets, different conceptions of quality, differences in staff size, and differences in the way individuals process language". It could be argued that, along with budget restrictions, the ever-increasing time pressure resulting in shorter turnaround times in completing translation assignments may lead to the elimination of other-revision. Other-revision can also be deemed unnecessary when the translation is done by an experienced translator, which is seen as a factor of quality assurance (Mossop 2024: 2020). Although the improvements to quality that other-revision may bring are not always perceived to be worth the extra time, effort and cost, in the changing landscape affected by technology, where translation assignments are increasingly split and performed by multiple translators on platforms, as is the case in CT on collaborative platforms, other-revision can be even more important in the translation process to achieve consistency and quality.

Given a lack of research into how the translation process is changing due to evolving technologies, the present research offers a glimpse into such changes based on self-reported data, especially with regard to translation phases, segmentation, self- and other-revision, and research. However, more empirical research should be done to investigate these changes and the nature of their impact on translators, end-users of translations, and translator training.

3. Methodology

3.1. Sample

The study utilised snowball sampling to distribute an online survey (25 questions) to translators via professional networks and social media. The survey, designed in Qualtrics, underwent piloting and review by experienced researchers in Translation Studies. Ethical approval was obtained from the University of Surrey Ethics Committee. Data was collected from 804 participants between March and June 2020, with anonymity ensured through identity numbers.

Due to the sampling method, the sample's representativeness was impacted, limiting claims and generalisations. A high response rate (70%) was obtained from one platform, Motaword, but 46% of its users reported also working with other platforms. To address potential bias, a sub-sample analysis was conducted, dividing participants into Motaword-

only users (n=303, participants with FF approach) and users of other platforms (n=236, participants with SA approach).

3.2. Data analysis

The data underwent cleaning and quantitative analysis using SPSS, with 27 participants excluded due to lack of prior experience with CT or incomplete survey responses. This left a total sample size of 804. Chi-square tests of independence revealed significant relationships between various variables and the platforms used, although effect sizes were generally low. Moderate to high associations were identified in some instances. The quantitative analysis is detailed elsewhere (Gough et al. 2023). The present article reports on both qualitative and quantitative data; however, the focus is on the qualitative data mainly based on participants' perceptions of how their translation process is affected by CT workflow rather than their actual translation production in CT mode. The analysis integrates insights from the sub-sample analysis to ensure a balanced representation of quotations.

Thematic content analysis of the qualitative data was conducted using MAXQDA, revealing patterns, main themes, and subsidiary themes in participants' responses. This provided deeper insights into their experiences and perspectives regarding the CT workflow. The percentages mentioned throughout, however, derive from the quantitative analysis of the survey of 804 translators.

The participants (referred to as 'P') reported working on a range of 49 platforms. It was challenging to classify the platforms due to their diversified nature and constant evolution. Based on their approaches to task allocation, the platforms were retrospectively classified (Gough et al. 2023: 54-55). While presenting the findings, the variation in the sample was taken into account to provide a more balanced view of the data. Quotes from participants working with the 'split and assign' approach are indicated with (SA), i.e. P1 (SA), and those from participants working with the 'first come, first served' approach are indicated with (FF), i.e. P2 (FF). Quotes from participants working with both workflows are indicated with (SA+FF), i.e. P3 (SA+FF).

3.3. Sample profile

The sample profile differed slightly from those of other translator surveys in terms of age, gender balance, professional experience, and formal training in translation. The sample encompassed 84 languages, 233 language pairs, and 365 language directions. Further details about the sample and methodology can be found in Gough et al. (2023).

4. Findings

One of the most notable findings is that 59% of the translators reported that their production process is different when they translate in CT mode (Gough et al. 2023: 64). Over 600 participants in our survey (75%) provided free text responses to elaborate on

how CT mode affects their translation processes. Data reveals notable differences in terms of translators' reported engagement in translation production across the different phases of the translation process, self-revision of their translations, and research while translating. In the non-CT mode (when they translate the entire text without using a platform in CT mode), translators report following the three-phased translation production process, and their decision-making is distributed over the "pre-drafting/drafting/post-drafting" phases (Mossop 2000) before the TT is sent for other-revision. P567 (SA+FF) explains how they translate in non-CT mode:

> I personally translate in three phases. In the first phase, I do my best to convey the message to the target as accurately as possible. Then, after a time interval of one or two hours, after having a big cup of coffee, I go back to revise my translation in terms of accuracy against the source and intelligibility, accessibility, adequacy, tone, and the like. Finally, I proofread it in terms of orthography, syntax, and audience. This personal procedure is sometimes adversely affected in the concurrent mode.

Another participant (P449 FF) says, "Even though I learn from other translators when working in concurrent mode, I rather work on the entire documents on my own with the time needed to deliver a quality job, following my personal process of translating, editing and proofreading." Although the terminology they use to refer to the phases is different from "pre-drafting/drafting/post-drafting", it denotes the same phases in the process. Data reveals that when they translate in non-CT mode, the participants read the ST for comprehension, do research by referring to multiple resources to understand the context, make a first draft of the translation with self-revision, and revisit it after a short break. Although research reveals that, even in non-CT mode, some translators prefer to head-start the translation drafting by skipping the preparatory work in the pre-drafting phase (Sharmin et al. 2008), most studies mention a three-phased approach to translation production (Englund Dimitrova 2005; Jakobsen 2002; Mossop 2000), and the present research provides further evidence of this.

Our data suggests that, in CT mode, the boundaries between the three phases become less clear; they are even reported to merge into a single phase, that of drafting, often due to having to skip pre-drafting and limit self-revision during the drafting phase, but particularly self-revision during the post-drafting phase. Christensen and Schjoldager (2011) point out a similar change in the phases due to the segmented nature of the ST when using TMs. Further, Gough (2018) refers to this type of change in the process and links it to the workflow features of CT on collaborative platforms. The important point to note is that, as reported by the participants of the present study, such change occurs due to the workflow configurations of the CT mode rather than being the result of translators' individual preferences. In the present study, the main reason for this change is found to be added time pressure in the CT mode, which is due to the synchronicity of multiple translators working together on the same text and the associated 'competitive' aspect of such work. Although this brings speed to translation production, it alters the process notably. In certain configurations in the CT workflow (FF), translators compete to obtain more or easier segments, which alters their production behaviour. Our data

suggests that the competition enforced by time pressure leads to the removal of the pre-drafting phase almost altogether. Although some collaborative translation platforms mention that they make the full text available for translators to refer to, our findings suggest that translators rarely have time to consult the STs. P719 (FF) says, "I cannot get familiar with the text because there is no time. When I take time to think about it, someone else goes on to translate the other segment." P30 (FF) says:

> Timing becomes more important. I also feel it is better to read the whole document first to get a better understanding of it. However, as other translators are competing for the same strings, I don't think anyone actually takes the time to read the document first.

The limited opportunity to read the ST before drafting the translation and the segmented nature of the ST, compounded by the synchronicity of the collaborative translation workflow, lead to translators missing contextual clues. P564 (SA+FF) says, "Translation is difficult because many times we do not have the time to understand the context and do proper research on terms and terminology." P461 (SA+FF) says, "I translate faster and there is much more guessing, as the context is not given when you end up translating isolated sentences." P494 (FF) says, "We hardly ever have time to really understand what it is we are translating, we have little time to be able to come up with better ideas before our segments are edited."

We asked the participants about their usual self-revision patterns in the non-CT workflow (Appendix, Q11). The majority (60%) said they produce a relatively solid draft, do some self-revision as they go along, but also spend some time revising at the end (similar to "constant [self-]revision", as described by Carl, Dragsted, and Jakobsen 2011: 10). A total of 24% said they produce a solid draft, self-revise as they go along, and do minimal self-revision at the end (similar to "online [self-]revision", as described in ibid.). Finally, 12% said they produce a fast draft and self-revise thoroughly at the end (similar to "end-[self-]revision" in ibid.). However, the translators report that their self-revision patterns vary remarkably between the CT and non-CT modes (Appendix, Q11 and Q21). The competition enforced by time pressure in CT mode encourages translators to finish their translations as they draft them. For example, P704 (FF) reports "translating faster and more in detail already in the first draft." P122 (SA) thinks they "have to be very careful with the translations since I (they) may not have time to revise it several times." Moreover, P188 (SA) says, "I tend to try to produce a more ready translation at once," which indicates that the workflow urges them to fit the whole process into one phase, i.e. drafting. Although changes in self-revision patterns could be regarded as acceptable in different workflows, the change we observe in CT mode seems to transform self-revision in such a way that it falls short of being complete and becomes superficial. Translators explain that the self-revision and research elements in their drafting phase are eliminated, and they tend to use the first translation option they come up with. For example, P330 (FF) says, "I also spend significantly less time on revising/editing the translation, as other translators working on the text will finish the project otherwise without me." P334 (FF) says, "I research and revise much less. I prefer to do an actual text or document individually and be able to research and revise at will." Further, P761

(FF) says, "I feel the pressure to complete my segment(s) faster, or another translator might 'steal' it from me. I also feel that I don't have much time to check for unfamiliar words and that the [self-]revision process is more superficial." P61 (SA) says, "When working concurrently, I feel pressured to have the text done perfectly the first time. I don't feel there is time to [self-]revise because I know someone might be looking at it and needing/wanting it right away."

In addition to removing the pre-drafting phase and limiting self-revision and research during the drafting phase, our data suggests that CT mode precludes self-revision in the post-drafting phase. P401 (FF) says, "When you work in the concurrent mode, you cannot let the translation 'rest' and come back later to check it." P193 (FF) states, "I am not able to produce a draft and then go back to it." P472 (SA+FF) states, "By having the entire project, I am having enough time to check again and again, to proofread, and to do research if needed." P789 (FF) says, "I like to do a rough draft of a translation, leave it for a day or so, and then come back to it to do an in-depth [self-]revision, and I find that difficult to do in concurrent mode." We see that CT mode not only urges the participants to transform and minimise the online self-revision (preferred by 24% of the sample) and constant self-revision (preferred by the 60% of the sample) they would have done in the drafting phase in a non-CT scenario, but also forces them to discard the self-revision that would have happened in the post-drafting phase, thereby precluding the opportunity to improve the very first translation formulated.

Translators comment that the workflow in CT mode might intervene in the translation process, urging them to confirm translated segments sooner than they want to. P234 (FF) says, "There is a rush to finish the job. [...] When I work individually, I always close my work for a certain period and then I go back to it with fresh eyes. I think you cannot skip this fundamental step in translation." P564 (SA+FF) says, "The competition with other translators obliges me to confirm segments sooner than I would like to." P240 (FF) says:

> Because I can see the segments that are still available and the ones being translated, I feel the pressure to translate faster and confirm segments sooner than I would like. The more segments you translate, the more you earn, so this pressure makes me have less time to do the research I would normally do when translating an entire text by myself.

P600 (FF) raises a point regarding the dynamic nature of the workflow in CT mode: "Different pace and dynamic, quick thinking and fast decision-making are vital when working in concurrent mode." According to P460 (SA+FF), "In concurrent mode, you work faster, you revise less because turnaround times are tight." P341 (FF) mentions that "the segments are not necessarily translated in a flow, so the translation flow is dynamic and unlike regular TEP."[3] Previous research reveals a similar phenomenon triggered by segmentation, which is claimed to disrupt linearity and cohesion (Pym 2011). In CT mode, we observe a further segmentation on top of the splitting of the ST into segments. This is because, in CT mode, the ST segments are either released as individual segments to translators, who can randomly pick and process them on a first come, first served basis,

[3] TEP: translate-edit-proofread.

or they are further grouped into larger chunks and assigned to individual translators in segment groups. This second layer of segmentation, especially the former kind, is one prominent difference of CT mode which affects the flow of translation. This further layer of segmentation in CT mode compounds deviation from approaching the ST as a whole, which has already been triggered by the segmented nature of the ST. P283 (FF) says:

> When working on this kind of job, I never engage with the text as a whole, so there is no emotional investment at all in the work. I therefore generally work much faster on these, often simply skipping segments I do not know rather than stopping to research anything about the subject, which I would always do on a sole translation.

We also asked the participants what types of (other-)revision workflow they had experienced in the CT workflow (Appendix, Q14), and the responses varied greatly, both within individual and across all the platforms (n=49). It is important to note that most platforms allow the editor[4] (who does the other-revision) to proceed as soon as segments are confirmed by the translator. A total of 40% chose the "revision phase happens at a later stage" option, while 31% chose "editor is revising after segments are confirmed, but not immediately". A total of 16% said that they did not know when/how revision happens, while 14% chose the "editor is revising immediately after segments are confirmed" option. However, the free text responses reveal that "expectations and details vary from one customer to another" (P257 SA+FF). P137 (SA) and P651 (SA+FF) say this "heavily depends on individual project setup." P137 (SA) adds that "the editor's immediate revision is normally not preferred by anyone involved on the linguistic side." The data on when other-revision happens shows that there is not a clear, consistent picture regarding other-revision within individual and across the 49 platforms. On the other hand, qualitative data suggests that the synchronicity of the translators' actions in the CT workflow extends to the editor's actions as well. The immediacy and closeness of the editing (other-revision) process result in translated segments being submitted before they are deemed sufficiently developed (Gough and Temizöz 2023: 287). P789 (FF) remarks, "Clients assume I'm finished long before I'm actually finished." The translators feed their first draft of "premature translation" (CSA 2021: 18; Gough et al. 2023: 277) into the system, as the workflow limits the option to revise later. P681 (SA+FF) says, "There's more pressure to confirm the segments, which hinders the reviewing process." This synchronicity appears to be the primary reason for the heightened time pressure, altering the translation process and restricting translators' opportunities for self-revision and research during translation, as well as for consideration of the context (with full-text reference), ultimately affecting the perceived quality of translations. Some participants say that once they confirm a segment, the editor confirms it online and locks it, preventing further edits by the translator who produced it. P813 (FF) says:

[4] The term '*editor*' is used by the participants to refer to the *reviser* (the person who is responsible for other-revision).

> My translation cannot mature as it should, and I cannot revise it thoroughly enough as a comprehensive text at the end. If I want to change, I have to retype the whole thing as the copy-paste function does not work, which does not make it worthwhile to revise it repeatedly.

When we asked the translators if they could go back to the segments they had translated and edit them after they had been sent to and confirmed by the editor (Appendix, Q18), we received conflicting responses from different participants about individual platforms and across the 49 platforms. A total of 44% stated that they can change their translations after they are confirmed by the editor, while 56% said this is not possible. Qualitative analysis suggests that this could be due to a lack of awareness of and training in platform features. P788 (FF) says, "I am not sure. I received no training about the use of the platform." Further, P8 (SA) says, "In all experiences that I've had, after submitting translations from my step, I lose access to them on the platform." Another participant (P10 FF) remarks, "On the platform I use, it's very difficult and sometimes impossible to revise my own work after I confirmed one segment and loaded the next segment." P785 (FF) states, "I can edit the segment after confirming translation, but if the editor gets to review them first, I have no chance to revisit my work." Another participant (P564 SA+FF) says, "To correct own mistakes is not possible." P709 (SA) says, "I usually translate and then go back to review the content. When it's directly sent to the editor, I cannot go back, make changes." The inability to revisit one's own translated segments would lead to incomplete translations being fed into the platform via a TM, which is updated 'live' and reused by other translators. P137 (SA) says, "Since confirmed segments could be TM matches for other translators, they need to be perfect in the first go."

As previously reported in Gough and Temizöz (2023: 282-283), "even if it is possible to contact the editor to propose [self-]revision, translators refrain from it for time reasons and to avoid any risks of being penalised (being set back from getting new translation assignments)". P137 (SA) says, "Technically I can, but I am not supposed to." In contrast, P156 (SA) says, "It is technically possible yes, but usually not allowed." P513 (SA+FF) says, "We have to provide very good accuracy to avoid account removal. If we take our time, we will not translate more than one segment. And if we work fast, we will receive many edits by the editor, and after a few overall edits, we will face account removal." P221 (FF) says, "As I understand it, you can change your segments. However, they are then counted as if you had made a mistake, and you are marked down."

We also asked if the translators could change translations performed by their colleagues when working in CT mode on collaborative platforms (Appendix, Q19). Similarly to Q18, the responses from different participants about individual platforms and across the 49 platforms were conflicting, indicating either that the translators are unaware of the possibilities provided by the platforms or that workflow configurations might be managed differently for individual translation tasks. P147 (SA) says, "You can do this but shouldn't. The system allows fine-grained control of all permissions." P572 (FF) says, "Once a segment is taken, I cannot write on it. However, translators and proofreaders

can write comments if they see that project guidelines are not observed." Our data also suggests that translators can obtain 'points' by editing colleagues' translations that could lead to issues. P288 (SA) asks, "How can you judge unnecessary style changes by fellow linguists to just score points?", whilst P225 (FF) says, "I feel I can be more thorough when I translate alone and I am not subjected to other translators editing my work in ways that I disagree with. I don't know the experience of the person editing my work and I've had many instances where they change my segments wrong." P286 (FF) remarks, "Sometimes my translation is amended for another translation with poorer quality. I have no opportunity to know why this happens, and nobody explains 'the error'." This suggests ineffective communication among translators and highlights the need for better coordination.

Translators feel a lack of responsibility for and ownership of the translation in CT mode, and this affects their approach to the translation task. P305 (SA+FF) says, "When I work completely by myself, I am entrusted with a project where I have time to research and to produce a high-quality job." P373 (SA) says that when working in non-CT mode, "I feel like I own the whole project, and it is going to reflect the quality of my work." P387 (SA+FF) states, "I have a different attitude concerning the style and other aspects of the work done by many people. When working alone, I am conscious of the fact that I carry all responsibilities on my shoulders." Further, P440 (FF) says, "I take more pride in jobs that I have completed entirely by myself because I have a greater sense of 'ownership' of them." Another translator (P443 FF) says, "I feel more pride in doing a job all on my own, and my reputation as a translator is on the line if I do a mediocre job."

In CT mode, translators seem to hand over the responsibility of revising their translation to ensure quality and consistency to the editor/proofreader, and they think this workflow increases the burden on editors' shoulders (Gough et al. 2023: 64). P581 (FF) says, "It makes the translation process faster as I know that there will be an editor revising my translation, so I might ignore some trivial mistakes or spend less time trying to come up with a completely correct and exact translation." P640 (SA+FF) says, "I consider these jobs to be less quality demanding and assume the client had agreed with all the risks of the model they chose. I tend to shift responsibility for the end-product onto the editor in charge and spend less time researching terms." P474 (FF) says, "The pressure is to translate as quickly as possible, not as accurately as possible [...] I suppose the editors/reviewers must be thorough and spend a significant amount of time harmonising the translated segments." Moreover, P450 (FF) says, "It implies working faster and revising less due to the fact that translators know the proofreader will take care of the revision."

5. Conclusion

This article draws on data from 804 translators, comparing their perceived translation processes in CT mode and non-CT mode. According to the findings, there is a notable shift in how translations are produced, both in terms of the three-phased translation

production model (pre-drafting, drafting, post-drafting) and, more broadly, the TEP (translate, edit, proofread) model, which assumes a revision by others subsequent to translation production (rather than a revision that happens synchronously with production). In CT mode, the pre-drafting, drafting and post-drafting phases are brought closer to one another or overlap altogether, changing the flow of translation within an individual translator's process and between translators and editors (revisers). CT mode could be argued to be similar to "translation on screen" (translating while reading the ST) and "translation drafting" (producing a first draft and revising it later), as mentioned by Asadi and Séguinot (2005), in the sense that translators produce the translation as they read the ST segments and produce a first draft. However, in CT mode, translators are quite restricted in terms of the option to self-revise their translation, both while and after producing it. In CT mode, translators report rarely editing their translation or referring to resources while they are typing the translation. Instead, they type the first option that comes to their mind and move on to the next segment, or even a randomly chosen segment that no other translator working on the same text has selected. This is because, in CT mode, multiple translators work synchronously on either groups of segments or individual segments of the ST, and they rush to process and submit their segments and move on to the next one, to be able to take on new segments and carry on translating.

Another prominent change in the CT mode is limited research time. The synchronicity of the CT workflow, compounded by the immediacy of the editor's actions, urges translators to either limit or give up consulting resources and to confirm incomplete translations. Moreover, translators' sense of lower responsibility for the translation in CT mode and the resulting lower levels of commitment to producing a high-quality translation also affect their approach to doing research and self-revising their work in the translation process.

The international standard ISO 17100 (2015: 10) requires translators to perform "self-revision of the target content for possible semantic, grammatical and spelling issues, and for omissions and other errors". It also highlights "competence in research, information acquisition, and processing" among the professional competences of translators (ibid.: 6). Regarding other-revision, ISO 17100 (2015: 10-11) points out that:

> the reviser who shall be a person other than the translator [...] shall correct any errors found in the target language content [...] and the process is repeated until the reviser and TSP are satisfied. The reviser shall also inform the TSP of any corrective action he/she has taken.[5]

Our findings reveal that, as it stands, the CT workflow does not fully provide conditions that allow for the self-revision, research and other-revision requirements outlined in ISO 17100 to be fulfilled. This is because the CT mode provides a sub-optimal environment where these important components of translation production processes are affected. More specifically, it involves the removal of preparation during the pre-drafting phase,

[5] TSP: translation service provider.

limited or precluded research and self-revision during the drafting and/or post-drafting phases, and immediate/overly early other-revision before the translation is complete.

As foreseen (Fiederer and O'Brien 2009), translation is nowadays an activity closer to HAMT and increasingly performed on platforms. It could be argued that production processes could be changed by the requirements of the language market, such as higher productivity and the integration of technology. However, the limited or precluded components of the translation process which are important for output quality need to be compensated for by alternative technological or collaborative features. The new AI-supported model (Fairman 2024) bears a resemblance to what is already happening in the CT mode from a translation process perspective (i.e. three-phased production being merged into one phase). A potential solution to compensate for the shortcomings of the available platforms in terms of self-revision and research could be established by means of designing more user-oriented workflows based on research evidence and leveraging AI.

With its recent surge in many spheres of our lives, including how we produce translation, AI seems to be taking over the generative aspect of not only translation production but also any type of written text production. Developments in TMs and MT have increasingly transformed translators' role into that of posteditors. At the time of writing, AI is extending what previous translation technologies (TMs/MT) have been doing to translation and the translator. It mainly supports the provision of the first translation draft by generating alternatives in terms of appropriate word-choice, register, etc. However, it is still the translator who needs to decide not only whether or not to select these alternatives, or which one to select, but also how to edit these suggested options to produce the optimum translation. This seems set to remain the case, at least in the near future. Moreover, it is important to note that whilst these new tools could generate more sophisticated contextual matches, they may add yet another layer of decision-making, thus potentially increasing cognitive load for translators. So, there is always a trade-off between the opportunities tools/workflows offer and the translator's cognitive load. More empirical research is needed to test the new tools and find where the optimum balance between cognitive load and translation quality lies.

Moreover, the findings of the present study reveal less negative sentiment regarding the 'split and assign' (SA) workflow than the 'first come, first served' (FF) workflow, which were retrospectively identified in the data (Gough et al. 2023; Gough and Temizöz 2023). Therefore, it would be good to focus on either SA or other user-friendly alternative workflows that would lead to user satisfaction and better output quality. Finally, translator training programmes need to closely monitor the fast-changing landscape of language technologies and workflows to provide up-to-date training. Also, both translator trainers and platform developers could benefit from evidence-based knowledge created through independent research activities. Overall, the identified changes that CT mode has introduced to the translation process and their implications call for human-centric and user-centric technology design, emphasising the necessity of harnessing collective human

intelligence in distributed workflows in a more effective way, especially when it comes to the intricate nature of the translation process.

6. References

Alves, F. (2005). Ritmo cognitivo, meta-função e experiência: parâmetros de análise processual no desempenho de tradutores novatos e experientes. In: F. Alves; C. Magalhães; A. S. Pagano (eds.). *Competência em tradução*: *cognição e discurso*. Belo Horizonte: Ed UFMG, pp. 109–169.

Alves, F. & Gonçalves, J. L. (2007). Modelling Translator's Competence: Relevance and Expertise under Scrutiny. In: Y. Gambier; M. Shlesinger; R. Stolze (eds.). *Translation Studies: Doubts and Directions. Selected papers from the IV Congress of the European Society for Translation Studies*. Amsterdam: John Benjamins, pp. 41–55. <https://doi.org/10.1075/btl.72.07alv>. [Accessed: 20241218].

Alves, F. & Liparini Campos, T. (2008). Chains of Cognitive Implication in Orientation and Revision during the Translation Process: Investigating the Impact of Translation Memory Systems in the Performance of Professional Translators. In: *Proceedings of the XVIII FIT World Congress.* Shanghai: Foreign Language Press. CD-Rom.

Alves, F. & Vale, D. C. (2009). Probing the Unit of Translation in Time: Aspects of the Design and Development of a Web Application for Storing, Annotating and Querying Translation Process Data. *Across languages and cultures*, v. 10, n. 2, pp. 251–273. <https://doi.org/10.1556/Acr.10.2009.2.5>. [Accessed: 20241218].

Asadi, P. & Séguinot, C. (2005). Shortcuts, Strategies and General Patterns in a Process Study of Nine Professionals. *Meta*, v. 50, n. 2, pp. 522–547. https://doi.org/10.7202/010998ar. [Accessed: 20240211].

Borg, C., (2018). The Phases of the Translation Process: Are They Always Three? Chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/ https://www.um.edu.mt/library/oar/bitstream/123456789/38130/1/Claudine%20Borg.pdf. [Accessed: 20240115].

Braga, C. N. O. (2007). Indagando o Perfil de Tradutores em Formação: um Estudo de Caso. [Unpublished Master's Thesis]. Federal University of Minas Gerais, Brazil.

Carl, M., Dragsted, B. and Jakobsen, A. L. (2011). A taxonomy of human translation styles. *Translation Journal*, v. 16, n. 2. http://translationjournal.net/journal/56taxonomy.htm. [Accessed: 20240205].

Christensen, T. P. & Schjoldager, A. (2011). The Impact of Translation-Memory (TM) Technology on Cognitive Processes: Student-Translators' Retrospective Comments in an Online Questionnaire, *International NLPCS Workshop & Sharp B. Proceedings of the 8th international NLPCS workshop: special theme: human-machine interaction in translation*: Copenhagen Business School, 20-21 August. Samfundslitteratur, pp. 119-130.

CSA Research. (2021). *Collaborative Translation Platforms: The Reality of Sharing Language Projects*, Alison Toon and Helene Pielmeier.

Dragsted, B. & Carl, M. (2013). Towards a classification of translation styles based on eye-tracking and keylogging data. *Journal of Writing Research*, v. 5, n. 1, pp. 133–158. <https://doi.org/10.17239/jowr-2013.05.01.6>. [Accessed: 20241218].

Ehrensberger-Dow, M., Hunziker Heeb, A. (2016). "Investigating the ergonomics of a technologized translation workplace", in: Ricardo Muñoz Martín (ed.), *Reembedding Translation Process Research*. Amsterdam: John Benjamins. 69-88. <https://doi.org/10.1075/btl.128.04ehr>. [Accessed: 20241218].

Englund Dimitrova, B. (2005). *Expertise and explicitation in the translation process.* Amsterdam: John Benjamins. <https://doi.org/10.1075/btl.64>. [Accessed: 20241218].

Enríquez Raído, V. (2013). *Translation and Web Searching* (1st ed.). Routledge. <https://doi-org.surrey.idm.oclc.org/10.4324/9780203798034>. [Accessed: 20240315].

Fairman, G. (2024). How to maximize productivity and still feel like an author when it comes to Gen AI and Translations, Online Live Seminar at the Centre for Translation Studies (CTS), University of Surrey, UK.

Fiederer, R., O'Brien, S. (2009). Quality and Machine Translation: A realistic objective? *The Journal of Specialised Translation*, v. 11, pp. 52-74.

Gough, J. (2016). *The patterns of interaction between professional translators and online resources* [Doctoral thesis]. University of Surrey. Guildford. http://epubs.surrey.ac.uk/813254/. [Accessed: 20240307].

Gough, J. (2018). Investigating the use of resources in the translation process. In: Duran Munoz; G. Corpas Pastor (eds.). *Trends in e-tools and resources for translators and interpreters.* Brill: Boston, pp. 9-36.

Gough, J., Temizöz, Ö., Hieke, G., Zilio, Z. (2023). Concurrent Translation on Collaborative Platforms. *Translation Spaces*, v. 12, n. 1, pp. 45-73. <https://doi.org/10.1075/ts.22027.gou>. [Accessed: 20240420].

Gough, J., Temizöz, Ö. (2023). Love it, hate it, tolerate it: Translators' experiences with Concurrent Translation on Collaborative Platforms. *Cultus 16: The Journal of Intercultural Mediation and Communication: Towards a history of translation collaborative practices and cooperation*, pp. 262-291. https://www.cultusjournal.com/index.php/current-issue. [Accessed: 20240303].

Göpferich, S. (2010). The translation of instructive texts from a cognitive perspective: novices and professionals compared. In: S. Göpferich; F. Alves; I. M. Mees, (eds.). *New approaches in translation process research*, Copenhagen: Samfundslitteratur, pp. 5-55.

Hvelplund, K. T. (2017). Translators' Use of Digital Resources during Translation. *Hermes (Åarhus, Denmark)*, v. 56, pp. 71–87. <https://doi.org/10.7146/hjlcb.v0i56.97205>. [Accessed: 20241218].

Hvelplund, K. T. (2019). Digital resources in the translation process - attention, cognitive effort and processing flow. *Perspectives, Studies in Translatology*. v. 27, n. 4, pp. 510–524. <https://doi.org/10.1080/0907676X.2019.1575883>. [Accessed: 20241218].

ISO 17100. (2015). International Standard for Translation Services – Requirements for translation services. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/ https://www.password-europe.com/images/PWE/PDF/ISO-17100-2015.pdf [Accessed: 20240225].

Jääskeläinen, R. (1989). Translation Assignment in Professional vs. Non-Professional Translation: A Think-Aloud Protocol Study. In: C. Séguinot (ed.). *The Translation Process,* New York, H. G. Publications, York University. pp. 87–98.

Jääskeläinen, R. (1999). *Tapping the process: An Explorative Study of the Cognitive and Affective Factors Involved in Translating.* Joensuu: Joensuun Yliopisto.

Jakobsen, A. L. (2002). Translation drafting by professional translators and by translation students. In: G. Hansen, (ed.). *Empirical translation studies: process and product.* Copenhagen: Samfundslitteratur. pp. 191–204.

Jakobsen, A. L. (2003). Effects of Think Aloud on Translation Speed, Revision and Segmentation. In F. Alves (ed.). *Triangulating Translation. Perspectives in process-oriented research*. Amsterdam and Philadelphia: Benjamins. pp. 69–95. <https://doi.org/10.1075/btl.45.08jak>. [Accessed: 20241218].

Johnsen, Å. (2014) Revision and cohesion in translation. *Translation and Interpreting Studies*, v. 9, n. 1, pp. 70–87. <https://doi.org/10.1075/tis.9.1.04joh>. [Accessed: 20241218].

Kasperavičienė, R. & Horbačauskienė, J. (2020). Self-revision and other-revision as part of translation competence in translator training. *Journal of language and cultural education*, v. 8, n. 1, pp. 117–133. <https://doi.org/10.2478/jolace-2020-0007>. [Accessed: 20241218].

Kelly, D. (2010). Curriculum. In: Y. Gambier; L. van Doorslaer, L. V. (eds.). *Handbook of Translation Studies*, pp. 87–93. <https://doi.org/10.1075/hts.1.cur1>. [Accessed: 20241218].

Krings, H. P. (1986). *Was in den Köpfen von Übersetzern vorgeht*. Tübingen: Narr

Liparini Campos, T. (2005). O Efeito da Pressão de Tempo na Realização de Rarefas de Ttradução: Uma Análise Processual sobre o Desempenho de Tradutores em Formação. [Unpublished Master's Thesis]. Federal University of Minas Gerais, Brazil.

Magalhães, C. & Alves, F. (2006). Investigando o Papel do Monitoramento Cognitivo-discursivo e da Meta-reflexão na Formação de Tradutores. *Cadernos de Tradução,* v. 17, n. 1, pp. 71–128.

Mossop, B. (2000). The workplace procedures of professional translators. In: A. Chesterman; N. G. San Salvador; Y. Gambier (eds.). *Translation in context: selected*

papers from the EST Congress, Granada 1998, Amsterdam: John Benjamins, pp.39–48. <https://doi.org/10.1075/btl.39.07mos>. [Accessed: 20241218].

Mossop, B. (2011). Revision. In: Y. Gambier; L. van Doorslaer (eds.). *Handbook of Translation Studies*, pp. 135–139. <https://doi.org/10.1075/hts.2.rev1>. [Accessed: 20241218].

Mossop, B. (2020). *Revising and editing for translators*. Fourth edition. London, Routledge, Taylor & Francis Group. <https://doi.org/10.4324/9781315158990>. [Accessed: 20241218].

Mossop, B. (2024). Could research help revisers? *Perspectives*, v. 32, n. 2, pp. 319–329. https://doi-org.surrey.idm.oclc.org/10.1080/0907676X.2022.2157290. [Accessed: 20240320].

Norberg, U. (2003). *Übersetzen mit doppeltem Skopos. Eine empirische Prozess- and Produktstudie.* [Studia Germanica Upsaliensia 42]. Uppsala: Uppsala University.

O'Brien, S. (2009). Translation Memory Interfaces and Attention Shifts. PP Presentation at *Eye-to-IT Conference*, April 2009, Copenhagen.

O'Brien, S., O'Hagan, M., Flanagan, M. (2010). Keeping an eye on the UI design of Translation Memory: how do translators use the 'Concordance' feature? In *Proceedings of the 28th Annual European Conference on cognitive ergonomics*. 2010 ACM. pp. 187–190. <https://doi.org/10.1145/1962300.1962338>. [Accessed: 20241218].

O'Brien, S. (2012). Translation as Human–Computer Interaction. *Translation Spaces*, v. 1, n. 1, pp. 101-122. <https://doi.org/10.1075/ts.1.05obr>. [Accessed: 20241218].

O'Hagan, M. (2013). The impact of new technologies on translation studies: A technological turn? In: C. Millan-Varela; F. Bartrina (eds.). *The Routledge Handbook of Translation Studies*. London and New York: Routledge, pp. 503-518.

PACTE (2003). Building a Translation Competence Model. In: F. Alves, F. (ed.). *Triangulating Translation: Perspectives in Process Oriented Research*, Amsterdam: John Benjamins. <https://doi.org/10.1075/btl.45.06pac>. [Accessed: 20241218].

Pym, A. (2011). What Technology Does to Translating. *The International Journal of Translation and Interpreting Research*, v. 3, n. 1, pp. 1–9.

Robert, I. S., Remael, A., & Ureel, J. J. (2017). Towards a model of translation revision competence. *The Interpreter and Translator Trainer*, v. 11, n. 1, pp. 1–19, <https://doi.org/10.1075/btl.45.06pac>. [Accessed: 20240318].

Schaeffer, M., Nitzke, J., Tardel, A., Oster, K., Gutermuth, S.; Hansen-Schirra, S. (2019). Eye-tracking revision processes of translation students and professional translators. *Perspectives, Studies in Translatology*, v. 27, n. 4, pp. 589–603. <https://doi.org/10.1080/0907676X.2019.1597138>. [Accessed: 20241218].

Sharmin, S., Spakov, O., Räihä, K-J., & Jakobsen, A.L. (2008). Where on the screen do translation students look while translating, and for how long? *Copenhagen Studies in Language*, v. 36, pp. 31-51.

Appendix – Online survey – Translation process-related questions

Q11. What kind of self-revision do you normally do when you translate the entire text by yourself?

a. I produce a solid draft, self-revise as I go along, and make minimal revisions at the end.
b. I produce a fast draft and revise thoroughly at the end.
c. I produce a relatively solid draft, do some self-revision as I go along, but also spend some time revising at the end.
d. I do not know.

Other. Please specify: - Text

Q14. What type of revision workflow have you experienced when you work in concurrent mode? Please name the platform and put "x" in the appropriate box(es). You can select more than one option for each platform. - Any other platforms/comments? – Text

a) Editor is revising immediately after segments are confirmed.
b) Editor is revising after segments are confirmed, but not immediately.
c) Revision phase happens at a later stage.
d) I do not know when/how the revision happens.

Q18. When you work in concurrent mode, can you revise your own segments after they are confirmed by the editor? Please name the platform. - Any other platforms/comments? – Text

Q19. On the platforms you have worked on, can you revise segments assigned to other translators? Please name the platform. - Any other platforms/comments? - Text

Q21. When you work in concurrent mode, do you think your translation process is different compared to when translating the entire text by yourself (e.g. confirming segments sooner than you would like to, translating slower/faster, revising less/more, etc.)?

Yes. Please explain: - Text

No