

What Do Translators Think About Post-Editing? A Mixed-Methods Study Of Translators' Fears, Worries And Preferences On Machine Translation Post-Editing



Lorena Pérez Macías



Lorena Pérez Macías
Departamento de Filología
Inglés, Profesora Asociada
Universidad Autónoma de
Madrid
lorena.perez@uam.es
ORCID:
[0000-0003-4361-1250](https://orcid.org/0000-0003-4361-1250)

Abstract

Machine translation post-editing is becoming increasingly common in the translation industry. Given this context, it is essential to know how this new process has impacted professional translators in the translation market. Over the last decade, several studies have compiled information on the perspectives of the different agents involved, although those which include translators' opinions are in the minority (OPTIMALE, 2011; Guerberof, 2012; Specia & Torres, 2012; Temizöz, 2013; Gaspari et al., 2015; Rossi & Chevrot, 2019; among others). Given this situation, the aim of this study is to provide a wider general view of what has been analysed to date about the perception professional translators have of post-editing machine translations. It pays particular attention to the case of Spain, providing data on the main fears, worries and preferences in this area of professional translation.

Keywords: machine translation; post-editing; perspective; professional translators

Resum

La postedició de textos generats amb traducció automàtica cada cop és més present en el sector de la traducció. En aquest context, és essencial saber com aquest nou procediment ha impactat sobre els traductors professionals. Al llarg de la darrera dècada, diversos estudis han recollit informació sobre la traducció automàtica i la postedició des de la perspectiva dels diferents agents implicats en el sector de la traducció, tot i que son minoria els que s'han interessat en l'opinió dels traductors (OPTIMALE, 2011; Guerberof, 2012; Specia i Torres, 2012; Temizöz, 2013; Gaspari et al., 2015; Rossi i Chevrot, 2019; entre altres). En aquest sentit, l'objectiu d'aquest treball és completar la visió general de tot allò que ha estat analitzat fins a l'actualitat sobre la percepció que els traductors professionals tenen en relació amb la postedició de textos generats amb traducció automàtica, amb especial atenció al cas d'Espanya. En particular, aquest article presentarà dades relatives a les seves principals pors, preocupacions i preferències pel que fa a aquesta activitat professional.

Paraules clau: traducció automàtica; postedició; perspectiva; traductors professionals



Resumen

La posesición de textos generados con traducción automática está cada vez más presente en el sector de la traducción. En este contexto, es esencial saber cómo este nuevo proceso en el mercado de la traducción ha impactado a los traductores profesionales. Varios estudios han recogido a lo largo de la última década información sobre las perspectivas en relación con la traducción automática y la posesición de los diferentes agentes implicados en el sector de la traducción, aunque son minoría los que se han interesado en la opinión de los traductores (OPTIMALE, 2011; Guerberof, 2012; Specia y Torres, 2012; Temizöz, 2013; Gaspari et al., 2015; Rossi y Chevrot, 2019; entre otros). Llegados a este punto, el objetivo de este trabajo es completar la visión general de lo que ya se ha analizado hasta la fecha sobre la percepción de los traductores profesionales respecto a la posesición de textos generados con traducción automática, con especial atención al caso de España. En particular, se presentarán datos relativos a sus principales temores, preocupaciones y preferencias en relación con esta actividad profesional.

Palabras clave: traducción automática; posesición; perspectiva; traductores profesionales

1. Introduction

While qualified translators and translators with an introspective view of translation as a human activity have historically tended to perceive the advances of machine translation (hereafter MT) with doubts, reticence or suspicion (such as Nida, 1964 or Way, 2016, in two temporal extremes of the history of this discipline), it is undeniable that the technologies usually applied to today's translation processes are increasingly integrating functionalities which are close to MT or typical of this type of process.

Both MT and human post-editing (hereafter PE) are now considered strategic elements for socio-economic development, this conclusion being deduced from their appearance in recent international standards (e.g. ISO/DIS 18587.2 Translation services - Post-editing of machine translation output - Requirements) and, in the specific case of Spain, from the approval of two state strategic plans related to language technologies published by the Secretary of State for Telecommunications and the Information Society (SETSI, from its acronym in Spanish)¹.

Within this changing environment, it is important not to lose sight of the human translator, who is, in the end, the one who has to deal with new developments in the professional translation industry on a daily basis. As they are principal agents, it is essential to know how these changes are affecting them.

This study will attempt to answer the following questions: have you received any kind of training in relation to the practice of PE?; do you or have you ever done PE?; in what context do you or have you done PE?; how do you budget or invoice PE projects?;

¹ Plan for the Advancement of Language Technology. Available at: <https://www.plantl.gob.es/tecnologias-lenguaje/PTL/Bibliotecaimpulsotecnologiaslenguaje/Detalle%20del%20Plan/Plan-Advancement-Language-Technology.pdf>
Report on the state of language technologies in Spain within the Digital Agenda for Spain (Informe sobre el estado de las tecnologías del lenguaje en España dentro de la Agenda Digital para España). Available at (in Spanish): <https://www.plantl.gob.es/tecnologias-lenguaje/PTL/Bibliotecaimpulsotecnologiaslenguaje/Material%20complementario/Informe-Tecnologias-Lenguaje-Espana.pdf>

indicate your degree of satisfaction with the final economic profitability of the PE projects; do you consider PE as an opportunity or a threat?; do you consider it necessary to notify the client if you are going to use PE in a project?; and if you were given a choice, what type of project would you prefer to accept, assuming that the economic profitability is equivalent in any of the options?

2. Research background based on Translators' opinions on MT and PE

In this section, a list will be made of the research backgrounds within the field of PE that have been considered most relevant to this work. As a starting point for this list, the collection submitted by Rico (2017: 83-85) will be taken into account and, from there onwards, other similar studies will be added.

As stated by Rico (2017: 83), one of the first works that reflects the worries of the translators because of the improvement of the quality of the MT engines is the research carried out within the Optimale project (2011). In this project, a survey was conducted among 700 employers who indicated, for example, that the quality of the translation is more important than the speed of delivery.

Gaspari, Almaghout & Doherty (2015) conducted a survey with a group of 438 translators, teachers and language service providers within the QTLaunchPad project. The most relevant results are that the majority of respondents (68%) use free online MT systems and say that they are not adapted to their needs, which results in their dissatisfaction with the quality obtained.

In the study carried out by Koskinen & Ruokonen (2017) 70% of the interviewed translators indicated that technology was essential in their work and that they linked it to an increase in productivity.

The last study from Rico's collection to be included in this list is that carried out by Cadwell, O'Brien & Teixeira (2017), in which the sample was composed of 70 translators from the European Commission's DGT and 20 from the company Alpha CRC. Respondents state that the main reason for using MT is speed and increased productivity, although it should be noted that they indicated that PE requires more concentration, can slow down the whole process, and can block the thinking processes and creativity of the translator.

A few years earlier, Guerberof (2012) conducted a survey study as part of a larger project included in her doctoral thesis with the aim of finding out what translators think about PE and MT in the localisation industry. To this end, two different types of surveys were conducted: one was aimed at professional translators with considerable experience in the use of localisation tools and some experience in PE; the other was aimed at proofreaders with more than eight years' experience in the use of localisation tools and between two and six years' experience in PE. 24 translators/localisers and 3 proofreaders answered the survey. Among the results obtained in the surveys, it is significant that all of the translators surveyed except one were satisfied with the work done in relation to PE, although not necessarily with the rate of pay received from some clients. The

proofreaders also agreed with the translators' opinion on the rates of pay and were indifferent to or dissatisfied with working with MT, due to, among other factors, the quality of the automatically generated text.

In the same year, Specia & Torres (2012) carried out a study with the aim of finding out the preferences and concerns of translators regarding the practice of PE. To this end, an online survey on translation technologies was used as a method of data collection, aimed at both students and professionals in the field of translation at an international level. The researchers had a sample of 489 responses. Among the main results of the study, it should be noted that only a minority of respondents (15% of 289 subjects) were doing PE at the time of the study, while 32% of the same fraction of the sample indicated that they were not doing PE because of a lack of confidence in the quality of the MT or because they did not consider it appropriate, necessary, or convenient. Regarding PE tools, of the 55 subjects who were at that time using PE, 47% indicated having used SDL Trados and 27% indicated having used Google Translator Toolkit. Of the same sample of 55 subjects, 47% stated that they worked faster thanks to PE and 34% that costs were reduced with this practice. For almost half of a sample of 171 respondents, PE represented less than 10% of the total workload. Finally, with regard to how to make the PE estimate or invoice, 70% of a sample of 182 subjects preferred to quote according to the time needed to edit a segment, while for 41% it was better to quote according to the number of changes to be made to the text.

Temizöz (2013), as part of a larger project for her doctoral thesis, carried out a survey study to find out and compare the opinions of professional technicians (i.e. experts in one subject) who do PE and professional translators who do PE. The survey was given to the sample, consisting of ten experts and ten translators, during several experiments in which they had to do PE and proofreading of texts. Among the most significant results for this work were the following: none of the translators surveyed had any training or experience in the technical field; none used translation memories or MT in their work; all the translators stated that they needed more documentation time to do a technical translation than a subject matter expert; however, the result of PE by a translator is easier to read than the subject matter expert's version, among other significant findings.

The study by Sanz (2015) was part of the Master's Degree in Professional and Institutional Translation at the University of Valladolid, so it is presumably of lesser depth than the previous ones, but it has been included in this compilation because the subject studied and the results obtained are very relevant to this work. The purpose of Sanz's study was to analyse the usage of computer-assisted translation (hereafter CAT) and MT tools, needs related to these tools and changes in the translator in relation to said tools. To this end, she sent an online survey to translators with different profiles in terms of their level of experience: translators in training (no previous experience), translators with less than one year of experience, translators with between one and five years of experience, and translators with more than five years of experience. A total of 234 subjects of all profiles answered this survey. Some conclusions that are relevant to the present study are, for example, that most of the translators surveyed use CAT tools more often than PE, they consider that CAT tools help them to be more productive than

MT with PE, and they do not think that the role of the post-editor will replace the translator who uses CAT tools in the future.

In 2014 and 2015, Rico & García (2016) carried out a study with the aim of analysing the general situation of the translation sector in Spain, which included some interesting questions about MT and PE that will be explained in detail later on. Data collection was carried out in three different ways: 1) unstructured individual interviews with experts in the sector and focus group sessions for primary data collection; 2) data exploration of the activity register in the Spanish CNAE Code 7430 (translation and interpretation activities), bibliographic sources, international market reports and data exploration of the Iberian Balance Sheet Analysis System (SABI, from its Spanish acronym), for secondary data collection; and 3) survey (including 57 questions), for primary quantitative and qualitative data collection. The sample consisted of 175 subjects (35% companies and the rest freelance translators). As for the section dedicated to the freelance sector, the authors point out that if the growth of the most frequent services among those surveyed is analysed, PE is in third place, with 16%, behind software localisation (22%) and standard translation (68%), which would be in second and first place, respectively. In addition, the main technological challenge for freelancers is the use of MT (ibid.: 94 and 96).

The study carried out by Torres-Hostench, Presas & Cid-Leal (2016) aimed to find out the attitudes of companies in the translation sector in Spain towards the use of MT. To this end, a survey was sent out by e-mail in which 55 subjects participated on behalf of different companies. Although this study was not directly focused on translators, it has been included in this list due to the importance of the data collected in the companies, some linked to the attitude of the translators they work with towards MT and PE. One of the most interesting results was that more than half of the companies surveyed never used MT. The reasons that led the participants not to use MT were: the incompatibility of free systems with data storage requirements vis-à-vis confidentiality, insufficient training of translators, costs of implementing an MT system or lack of corpus for some specific languages or fields. Regarding the attitude of translators towards PE, it is noticeable that most of them accept PE assignments with reluctance. However, there is no consensus among the participants, which shows that PE is a process that causes mixed feelings.

In May 2018, a report on translators' perceptions of MT (Pérez-Macías, Rico & Forcada, 2018) was presented at the 21st EAMT Annual Conference, held in Alicante. This report included survey data on professional translators' usage and perceptions of MT, such as: the role of productivity in the use of MT, the use of quality indicators, the high level of pressure to use MT, among others. To this end, an online survey was conducted with the participation of 122 professionals from all over the world. The following results stand out: 44% of the subjects stated that they trust MT, while 41% were distrustful of this type of technology; 52% of the sample accepts PE projects; 79% of the subjects believe that translators contribute to the development of MT engines; among others.

The study by Rossi & Chevrot (2019) focuses on the current uses and perceptions of MT and PE in the institutional context, specifically in the European Commission. The

sample consisted of 89 respondents from 15 language departments. The most remarkable result of this study is that the perceptions of control, subjective norm and image, as well as insecurity have an impact on professional MT acceptance.

Also, within the framework of institutional translation, the study by Lesznyák (2019) focuses on the opinion of the European Commission's DGT on the neural MT of Hungarian translators. For that study, structured interviews were conducted with 38 translators who had been working with neural MT for 8-14 months. After that, the interviewees participated in a half-day workshop where they discussed the information gathered. The aim of this study was to collect information on translators' opinions on neural MT and on their working practices. The data collected showed that there was a wide variation in translators' opinions and working practices regarding neural MT. The translators expressed contradictory opinions about the usefulness of this tool. Some translators value neuronal MT as a very useful and positive development, while others have already stopped using it or use it only sporadically.

To conclude this selection of studies on perceptions of MT and PE, we include the recent study by Pérez-Macías, Sánchez & Rico (2020). This study focuses on current perceptions of MT and PE by translators working in the migration context in Spain. For the data collection, a focus group was conducted in three phases. In each part, the ten participants in the study had to evaluate a text generated by a MT engine and answer several questions. The main finding of this study was that they were aware that both MT and PE were becoming increasingly popular in the industry. However, they were generally negative towards these new processes and confirmed the importance of the human factor in the quality of the final text.

Looking at this selection of studies designed to know translators' perceptions on MT and PE, we can notice that, if we focus on Spain (Rico & García, 2016; Torres-Hostench et al., 2016; Pérez-Macías et al., 2020), the results obtained to date are negative opinions regarding these new processes. However, certain human factors such as fears, worries and preferences of professional translators regarding MT and PE have not been analysed in detail. For this reason, this study focuses on these aspects and, in this way, completes the information on the professional translation market in Spain available to date. The rest of the studies included in this list have served as inspiring sources for the planning of this work. The results obtained from each one of them are very relevant and for this reason some of the topics that they have dealt have been taken into account both in the focus group and in the survey used in the present study, although they have been adapted to the new objectives proposed here.

3. Methodology

The data presented here are part of a larger project within the framework of a PhD programme at the Pablo de Olavide University in Seville (Pérez-Macías, 2017). In this study, a methodological triangulation has been carried out (Silverman, 2013: 212) which has consisted of three phases: literature review on this topic, data collection using focus group sessions (qualitative data), and data collection by means of a survey (quantitative

data). The current research will show information gathered from both the second and third phases of the mentioned study, but only those data considered relevant to know participants' fears, worries and preferences regarding PE will be included in this section.

The target audience for the study was made up of by translators working in Spain who knew what PE meant, regardless of whether or not they had experience in this field. The following criteria were established to include participants in the study: a) the subject must be professionally engaged in some activity related to the field of translation in Spain at the time of participating in the study; b) the subject must be in active employment at the time of participating in the study; and c) the subject must know what PE is. This target audience has been chosen since it is considered to be the group that can provide the most significant information to this study, through its level of understanding and interpretation of the subject matter. Through these contributions, it is hoped that we will be able to obtain a direct and up-to-date overview with regard to the reception of the PE phenomenon as a value-added service in the professional translation sector.

Since the study collects information on opinions and perceptions, it has been decided to add, apart from two fully objective criteria for inclusion (a & b), a third more subjective criterion (c), which consists of the subject himself or herself considering that he or she is in a position to make an informed judgement on the issues raised by the study. The very design of the data collection instruments makes it possible a compensation for this subjective criterion when the respondent does not clearly show sufficient knowledge of the issue, since it explores the previous training and experience and the professional profile of each participant in detail. This allows the exclusion of those respondents who do not demonstrate that they can offer an informed opinion on this subject.

3.1 Focus Group

The first phase of the study corresponds to the collection of qualitative data through a focus group session in a group interview format, carried out with a selection of participants who were part of the target audience that had been previously defined.

Suárez (2005: 51-53) mentions several advantages that justify the choice of this type of data collection instrument, including promoting group interaction, providing first-hand information, encouraging participation, being flexible, facilitating and speeding up data collection, needing relatively little expenditure, among others. Likewise, Callejo (2001: 88) adds as a positive aspect, among others, the possibility of being able to observe verbal behaviours during the performance that add nuances that help to interpret the testimonies collected.

Initially, it seems logical to opt for the use of this type of data collection instrument due to the many advantages it provides, but in this study, it will only be used as an approximation instrument, as a preliminary phase to the development of what will be the main data collection tool: the survey. With the focus group interview, a first approach was made to the opinions of the translators with respect to the subject of this research in order to delimit which should be addressed in the construction of the survey (Fink, 2003: 117-143).

Firstly, a guideline was drawn up with questions that the moderator (in this case, the same researcher) would ask each of the participants, but, in turn, the participants would be free to generate debate with the answers of other participants or to raise new questions that had not arisen in a first approach. As mentioned above, this work is part of a broader investigation. The original outline included seven different sections of questions on MT and PE, but here we will focus on the next two sections:

<p>1. Relationship of the participants with PE</p>	<p>1.1. Training in PE</p> <p><i>Have you received any kind of training in relation to the practice of PE? How long ago? Did it include any kind of internship: in a company...?</i> (all participants)</p> <p>1.2. Professional experience in PE</p> <p><i>Have you ever done PE? In what context (training purposes, personal purposes, professional purposes...)?</i> (all participants)</p> <p><i>How long have you been doing PE?</i> (participants with experience in PE)</p> <p><i>How often do you do PE? Please indicate the approximate percentage in relation to the total volume of your work in the last year</i> (participants with experience in PE)</p> <p><i>In which language have you done PE?</i> (participants with experience in PE)</p> <p><i>Do you know the difference between full and light PE? What kind of PE has been requested most often?</i> (participants with experience in PE)</p> <p><i>According to your experience, how do you budget or invoice the PE projects (per word, per hour...)?</i> (participants with experience in PE)</p> <p><i>What is your degree of satisfaction with the economic profitability of the PE projects?</i> (participants with experience in PE)</p>
<p>2. Deontology of translation with respect to PE</p>	<p>2.1. PE: opportunity or threat</p> <p><i>Complete the following statement: "The increasing use of PE in the field of translation compared to human translation is, in your opinion..." (opportunity/threat)</i> (all participants)</p> <p>2.2. Information on the use of PE</p> <p><i>If you decide on your own, without being asked by the client, to use PE for a project, do you think you should inform the client?</i> (all participants)</p> <p>2.3. Preferred project type</p> <p><i>If you were asked to choose, what type of project would you prefer to accept, assuming that the economic profitability per hour is equivalent in any of the options available (only human translation, translation + CAT tools or PE)?</i> (all participants)</p>

Table 1. Sections and sub-sections of the focus group guideline

A total of five subjects participated in the focus group phase, all of them chosen according to their different profiles within the translation sector. All were trained as translators and had sufficient knowledge of PE, although only three of them had professional experience in PE at the time of the interview. The inclusion of people with knowledge of PE but no professional experience in PE at the time of the study has been considered relevant in order to try to have access to all possible answers that reflect the perceptions of Spanish translators about this type of service, as there may be professionals who, knowing what PE is, deliberately avoid accepting this type of project. The detailed profiles of the participants in the focus group are presented below:

SA	Freelance translator, post-editor and project manager since 2009.
SB	Graduated in Translation and Interpretation, but does not usually work in this field. Has training in PE.
SC	Freelance proofreader and post-editor since 2012.
SD	In-house translator and post-editor since 2016.
SE	Freelance translator for five years for only one client. Has knowledge of PE.

Table 2. Focus group participant profiles.

3.2 Survey

Focusing on the advantages of using a survey in research, Rojo (2013: n.p.) points out that they facilitate the collection of both objective information (e.g. age of participants, level of education, years of professional experience, etc.) and subjective information (e.g. their beliefs, attitudes, opinions). This dual possibility suits the objectives of this study, as it provides a better understanding of the profile of the person who carries out PE or is familiar with PE, while also facilitating the collection of feedback on their perceptions of this service. In addition, Robson (2011: 249) adds other advantages, in this case, in relation to the use of the online survey, such as its low cost, the possibility of including complex patterns and images, graphics, etc. or the possibility of adaptation for people with visual disabilities.

To create the final design to be used in this study, we started with the outline created for the focus group and added some topics that emerged throughout the session and were considered relevant enough to be included in the study. In this article, the results obtained in the following sections will be shown:

<p>1. Professional experience with regard to PE</p>	<p>1.1. Training in PE</p> <p><i>Have you received any kind of training in relation to the practice of PE? (yes/no). If yes, what type of training did you receive (self-taught; in-company training; attendance at conferences, congresses, etc.; online courses; specialist university courses; bachelor's degree subjects, master's or postgraduate subjects dedicated exclusively to PE; master's or postgraduate subjects not strictly limited to PE; PhD; other)? Have you done an internship in a company that included PE as part of your</i></p>
---	--

	<p><i>training? (yes/no) If yes, how long was this internship? (less than 1 month; from 1 to 3 months; from 4 to 6 months; more than 6 months) (all participants)</i></p> <p>1.2. Professional experience in PE</p> <p><i>Have you ever done PE? (yes/no) If yes, in what context (training purposes; personal purposes on your own initiative; professional purposes on your own initiative; professional purposes on request; other)? (all participants)</i></p> <p><i>How long have you been doing PE? (more than 8 years; from 6 to 8 years; from 4 to 5 years; from 2 to 3 years; less than 1 year) (participants with experience in PE)</i></p> <p><i>How often do you do PE? (usually; quite often; rarely) (participants with experience in PE)</i></p> <p><i>Please indicate the approximate percentage in relation to the total volume of your work in the last year (from 0 to 25%; from 26 to 50%; from 51 to 75%; from 76 to 100%) (participants with experience in PE)</i></p> <p><i>In which language have you done PE? (exclusively in my mother tongue; exclusively in a foreign language; both in my mother tongue and in a foreign language, but more often in my mother tongue; both in my mother tongue and in a foreign language, but more often in a foreign language; both in my mother tongue and in the foreign language, in the same proportion) (participants with experience in PE)</i></p> <p><i>What kind of PE has been requested most often? (light PE; full PE) (participants with experience in PE)</i></p> <p><i>According to your experience, how do you budget or invoice the PE projects (per word; per hour; other)? (participants with experience in PE)</i></p> <p><i>What is your degree of satisfaction with the economic profitability of the PE projects? (very satisfied [very good price]; fairly satisfied [adequate price]; not very satisfied [inadequate price]; absolutely not satisfied [completely unsuitable price]; other) (participants with experience in PE)</i></p>
2. Personal opinion on the practice of PE	<p>2.1. PE: opportunity or threat</p> <p><i>Complete the following statement: "The increasing use of PE in the field of translation compared to human translation is, in your opinion..." (opportunity; threat) (all participants)</i></p> <p>2.2. Information on the use of PE</p> <p><i>If you decide on your own, without being asked by the client, to use PE for a project, do you think you should inform the client? (yes, in all cases; yes, only if the result is the basis of the final delivery; no,</i></p>

	<p><i>if it does not form the basis of the final delivery; no, under no circumstances)</i> (all participants)</p> <p>2.3. Preferred project type</p> <p><i>If you were asked to choose, what type of project would you prefer to accept, assuming that the economic profitability per hour is equivalent in any of the options available (only human translation; translation + CAT tools; PE)?</i> (all participants)</p>
--	---

Table 3. Sections and sub-sections of the survey

Regarding the design of the survey, it is important to emphasise that a survey has been prepared that is as specific and closed as possible. For this reason, only in the pilot phase has there still been an open question at the end. In the final published version, all questions were closed and in the following formats:

- Yes/no
- Multiple choice
- Likert scale

Once the final version of the research survey was available, a version was made in the LimeSurvey online application in order to facilitate its distribution and the participation of the respondents². Non-probability sampling was used with the snowball technique, which consists of identifying several subjects who are part of the target audience under study. These individuals, after participating, are then asked to identify other members of the target population who may participate, with this process repeating similarly with each subject (Oppenheim, 1992: 42-43; Robson, 2011: 275).

In the survey phase, a sample of 104 responses was finally gathered. The predominant profile among the respondents corresponds to the following parameters: female, aged between 26 and 35, with Spanish as their mother tongue, English as their first foreign language, with a Bachelor's degree in Translation and Interpretation, for whom activities related to the translation sector are their main economic activities, who carries out translation and proofreading tasks, who works as freelancer, and who has carried out PE once. All these values are represented among the respondents with more than 60% of the total having exactly this profile.

4. Data analysis and interpretation

This section will show the data that have been collected using the instruments explained in the previous section. It is important to note at this point that the results obtained here are only applicable to the sample studied, and are not to be extrapolated to any other population than the one analysed here. In this particular context, it will be more interesting to study in depth a qualitatively representative sample of the target population, rather than trying to reach a statistically representative number of translation

² The final version of the survey is available at the following link (no more answers accepted): <https://www.upo.es/limesurvey/index.php?r=survey/index&sid=272728&lang=es>

professionals working in Spain. This also considers that it would not be possible to make a statistical calculation since the total target population is unknown.

4.1 Professional experience in PE

This section is composed of questions regarding the training and experience of the respondents in relation to PE.

PE training

With regard to PE training, only a minority of respondents, 37%, indicated that they had PE training, mostly as in-company training. However, it is significant that the majority of respondents, 88%, indicated that they had not undertaken an internship in a company that included PE projects.

On the other hand, three of the subjects in the focus group indicated that they had training in PE:

- "I attended some courses on PE in 2012 in Madrid".
- "The training in PE that I have received has been through some subjects of a master's degree that included PE in its content. In the internship in a company included in this master's degree, I was required to carry out some PE projects".
- "I also have training in PE. I attended a course organised by the university where I work".

These data suggest that there is greater concern about being updated on developments in the sector by the professional community, probably due to the market requirements. Furthermore, at the academic level it does not seem to be a forgotten theme, although it is a minority one.

PE experience

In order to ensure that only the respondents who had experience with PE had access to the questions in this section, a first question was included to serve as a filter to determine whether they were presented with the rest of this section or the next section of the survey as appropriate. The aim of this question was to find out if the respondents carried out or have ever carried out PE.

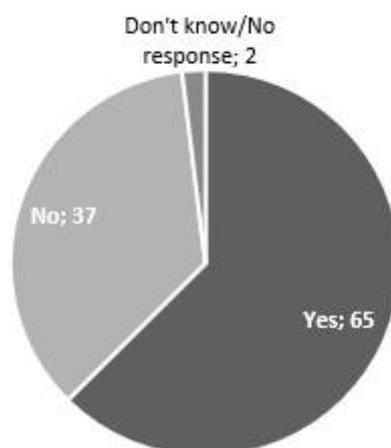


Figure 1. PE experience (frequency)

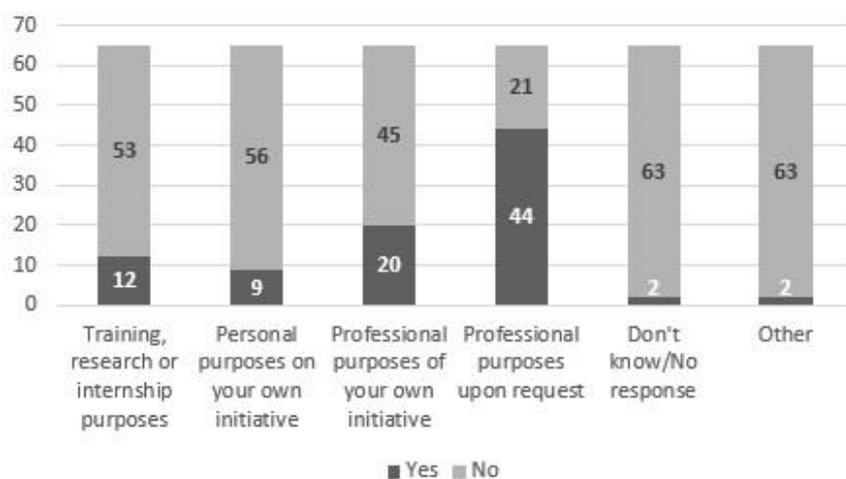


Figure 2. Context of PE use (frequency)

As can be observed, most of the respondents have experience in PE. Within this 63%, most have carried out these assignments for professional purposes and at the request of the client, so it could be attributed to an imposed situation. With regard to the years of experience in PE, most of the respondents indicated that they had been carrying out this type of project from 2 to 3 years. However, only a minority of respondents, 23%, indicated that they carried out PE projects on a regular basis. For the rest, these types of tasks are not part of their usual services as a translator, so the percentage of PE in relation to the total volume of work of most respondents is the lowest, from 0 to 25%. As for the language in which the PE was conducted, a large majority of respondents, 80%, post-edit exclusively in their mother tongue. Finally, 68% of respondents indicated that they had received full PE projects, i.e. equivalent to the quality of a human translation.

The data collected in this section during the focus group session indicate that the four participants who had professional experience in PE have been carrying out this type of process for approximately one year. In all cases imposed by the client. None of the

participants with experience indicated a percentage higher than 30% of the PE volume in relation to the total work:

- "A low percentage, I have received a few projects since I started, probably 5%".
- "A low percentage too, around 25%".

With regard to the language of the PE projects, all participants indicated their mother tongue, Spanish. Finally, as regards the kind of PE they had carried out, the majority indicated that they had done full PE.

These data appear to show that PE is a practice that, in most cases, is imposed by the client and is only carried out in specific cases. Moreover, it is a process that has been recently introduced in the market and seems to be restricted to the mother tongue of the post-editor. As far as the quality required is concerned, the result usually has to be equivalent to the quality of a human translation.

Budget/invoice

This section of the survey gathered information related to how only those 65 respondents who had confirmed that they had experience in this area in a previous question budget or invoice PE.

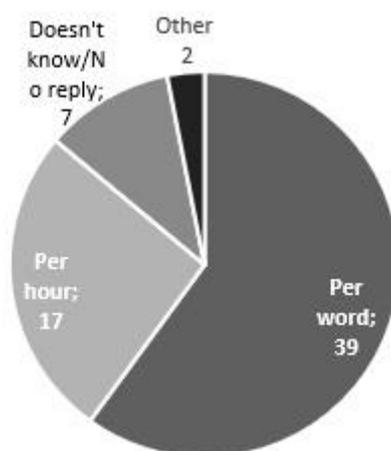


Figure 3. How to budget/invoice PE (frequency)

The majority of those surveyed who had access to this question, 60%, indicated that they budget/invoice PE per word, while 26% indicated that they do it per hour.

On the other hand, with regard to the data collected in the focus group session, for two of the participants it is usual to budget and invoice per word, so, for them, there would be no distinction in this aspect with translation projects. However, another of the participants referred to a general budget for this type of commission:

- "[...] I have some character rates and, approximately, this can take me so many hours... I make an estimate based on what I have already done."

The results on this item seem to indicate that, in most cases, respondents seem to rely on the generalised way of budgeting and invoicing for a translation.

Degree of satisfaction with economic profitability

In this item, the 65 respondents with PE experience were asked to indicate their degree of satisfaction with the final economic profitability of projects of this type.

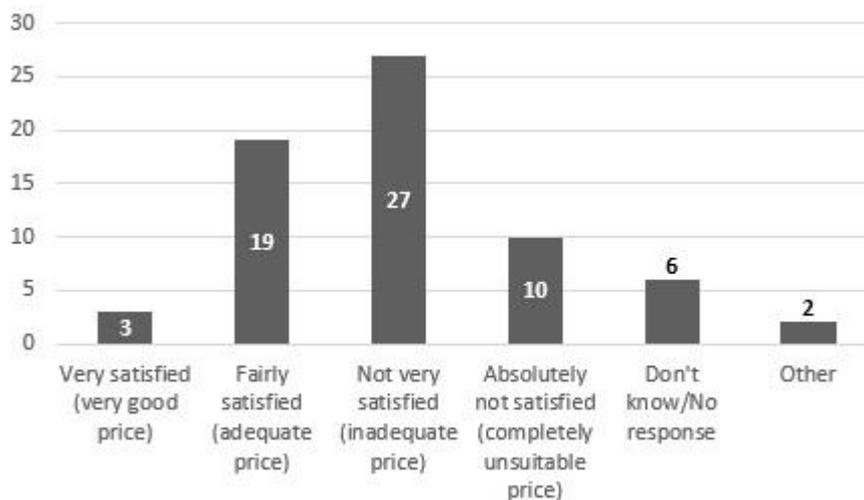


Figure 4. Degree of satisfaction with economic profitability (frequency)

As can be seen, the answers have been distributed as follows, above all, among three of the options offered: firstly, the option "not very satisfied (not very adequate price)" with 42%; followed by the option "fairly satisfied (adequate price)" with 29%; and finally, the option "absolutely not satisfied (completely unsuitable price)" with 15%. Only 5% of respondents would be very satisfied with the economic profitability of PE projects.

Regarding the qualitative data gathered in the focus group in relation to this item, two of the interviewees were not satisfied with the economic profitability of this type of project.

- "I think it's necessary to invest a lot of time and you get an insufficient amount of money."
- "[...] rates are not the same as for a translation and are always used to make the language service a little cheaper."

The case of another of the interviewees was different, since, as of the interview date, (January 2017), he was charging the same for PE and translation projects, so it is not possible to compare the profitability of both tasks separately.

With these results in mind, two trends can be observed: on the one hand, the majority of those surveyed (57% of the sum of the items "not very satisfied (inadequate price)" and "absolutely not satisfied (completely unsuitable price)" and two of the interviewees think that the economic profitability of this type of project should improve and, on the other hand, part of the sample that answered this question (34%, as the sum of the items "fairly satisfied (fairly adequate price)" and "very satisfied (very good price)" would be satisfied with the economic profitability generated by this type of project.

4.2 Personal opinion on the practice of PE

This dimension closed the survey and was open to the entire sample (104 subjects), whether they had experience in PE or not (it should be remembered here that, even if they had no experience, all the subjects in the sample should have sufficient knowledge of what PE is and what it consists of).

Opportunity or threat

In this item, the entire sample was asked whether they considered the increasingly frequent use of PE as an opportunity or a threat to translators.

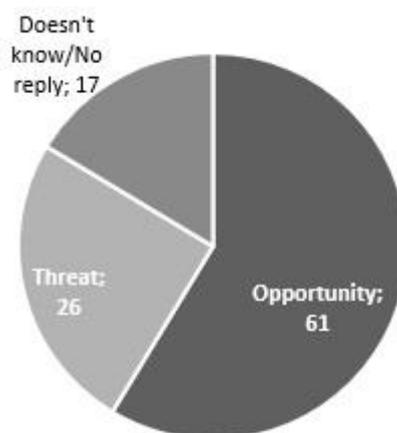


Figure 5. PE: opportunity or threat (frequency)

The majority of respondents, around 60%, see the advancement of PE in the translation industry as an opportunity for translators, while a quarter of respondents believe that it could become a threat to translation professionals.

The perceptions collected during the focus group in this item are very revealing. The participants' comments on this topic were as follows:

- "[...] We can't think that PE is going to be a threat to everyone, because then we couldn't do anything. The only thing we can do now is learn from what is coming and apply it to make our life easier."
- "It will never be possible to dispense with the level of quality offered by a professional human translation, so MT and PE could not be considered to be threats."
- "More and more, translation volumes are getting higher and PE is an option to get all the work done on time."

Surprisingly and contrary to some perceptions shown in the literature consulted (e.g. Gouadec, 2007: 305-307), no controversy was generated, as all interviewees agreed to consider PE as an opportunity. This opinion is very significant for the future of this service, as otherwise it would probably influence the number of translators who would want to include this practice within the services they offer as translation professionals.

Information on the use of PE

In this question of the survey, the 104 respondents were asked if they felt it was necessary to notify the client if they used PE of their own accord in a project.

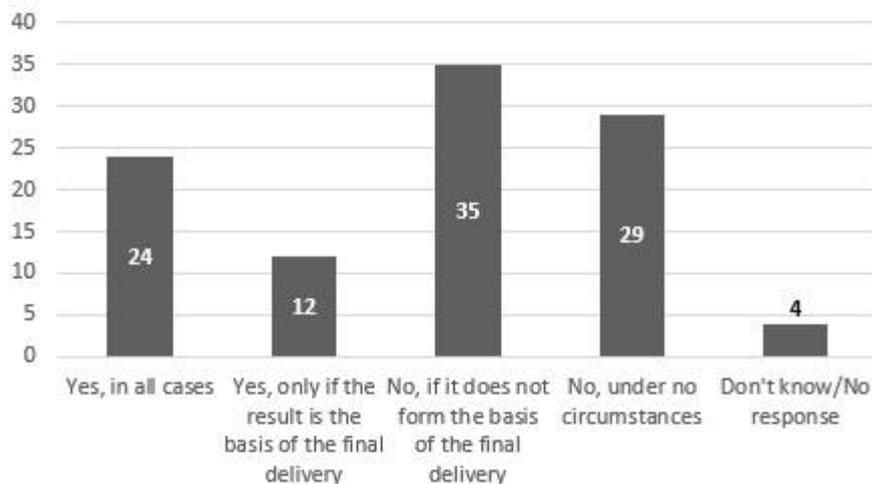


Figure 6. Information on the use of PE (frequency)

In this section, as can be seen in Figure 6, the answers have been widely distributed among the different options. 34% of the respondents indicated the option "No, if it does not form the basis of the final delivery", followed, according to the number of repetitions among the respondents, by the option "No, under no circumstances", with 28%. After these two answers, the option "Yes, in all cases" was chosen by 23% and finally, the option "Yes, only if the result is the basis of the final delivery" was chosen by 12% of the respondents.

In contrast, during the focus group session, all subjects indicated that they did not think it was necessary to report on the use of PE, as long as the final quality level was equivalent to that of a professional human translation.

These data suggest that there seems to be insufficient consensus about whether respondents consider it necessary to notify the client of the use of PE on their own initiative. Consideration of the type of project and client in each case may be necessary to make a correct decision in this respect.

Preferred project type

Another question asked to respondents was, if they could choose, what type of project they would prefer to accept, assuming an equivalent income for each of them: human translation only (translation without CAT tools or MT), translation with CAT tools, or PE.

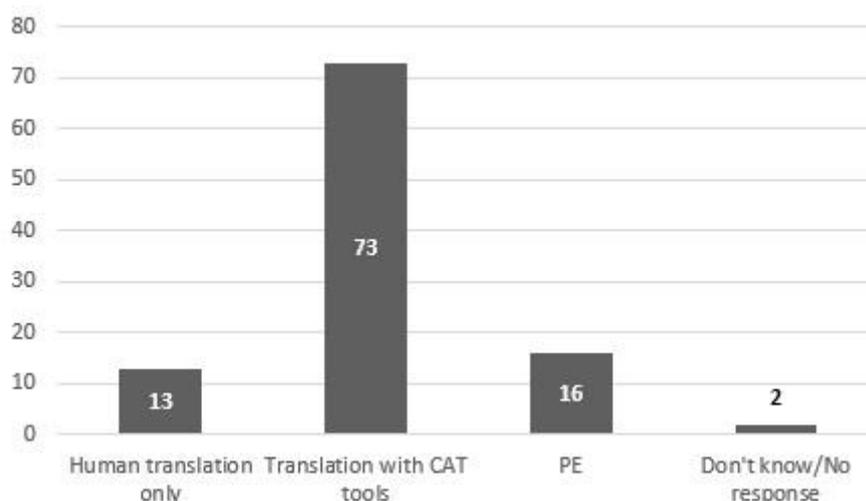


Figure 7. Preferred project type (frequency)

In this case, the majority of respondents, 70%, have indicated that they prefer to carry out translations with the support of CAT tools. In order of frequency, it would be followed by PE with 15%, and lastly, although with a result very similar to the previous option, would be the human translation, with 13%.

With regard to the data collected in the focus group on this item, four of the five subjects interviewed chose translation with the support of CAT tools. The fifth interviewee indicated that he preferred human translation without the support of any tool:

- "In my case, as I only carry out occasional orders and of the same subject matter, I would simply choose human translation, although I understand that this is currently a utopia."

According to the data gathered, it can be deduced that the trend among the sample surveyed is, on equal terms, to prefer the use of CAT tools. It would be interesting here to take into account aspects such as productivity and familiarity with the different types of systems, to test whether they influence the choice. Presumably, the type of project to which the participants have devoted the most hours of work in their day-to-day work is translation with CAT tools. Likewise, it is interesting to mention at this point that, during the focus group, one of the subjects indicated that PE requires a very high level of visual attention and also limits the translator's intervention as it requires very mechanical tasks, so it could influence professionals to feel more comfortable and prefer other types of projects, such as translation with CAT tools.

5. Discussion

The results obtained in the current study show the progressive change of mentality regarding PE that Torres-Hostench et al. (2016: 28)³ already considered necessary to help in the implementation of this new trend in workflows of the translation industry. In this study, carried out in 2015 and focused on the perspective of language service

³ For more detailed information on the research, see section 2 of this study.

companies in Spain, more than half of the companies surveyed never used MT, whereas most of the professional translators participating in the present study consider PE to be a positive phenomenon, an opportunity. However, in a situation of equivalent economic profitability, the vast majority of professional translators participating in the present study would choose CAT-tools when asked what type of project they would prefer to carry out. These results seem to be in line with Torres-Hostench (2016: 19) regarding the opinions shown in the focus group by experts from different companies about the reasons why some companies and translators are reluctant to take the plunge into PE. The reasons they mention include the lack of confidentiality of free MT systems, insufficient training in PE and prejudices about MT and PE. It is also interesting to consider here the responses of the companies that answered the survey regarding the reasons that make them discard the use of MT. The second most frequent reason, 33%, is that the client does not ask for this type of project. If we compare this data with those shown in the current study, most of the participants post-edit by client imposition, which seems to corroborate the increase in the use of MT and PE by companies and clients mentioned above. The percentage of PE in relation to the total volume of work shown by companies (Torres-Hostench et al., 2016: 21) and by translators (present study) is quite similar in both cases. PE tasks still represent a low percentage compared to the rest of the tasks usually offered. In most cases, PE is budgeted/invoiced per word, just like translation projects, according to the participants in the present study, and almost half of which consider the price to be unsuitable for this type of project. Further research would be needed on how best to find the balance between effort and fair pricing. This idea seems to be in the same direction as Torres-Hostench et al. (2016: 27), in the sense that the idea that admitting the use of MT by the company can lead to a low rate negotiation with the client. In the current work, reference is also made to the idea of admitting or not the use of PE. It is highly relevant that, for most of the participants, in the cases in which they have decided to carry out PE on their own initiative, it is not considered necessary to warn the client if that PE does not form the basis of the final delivery, probably to avoid these price reductions since the client considers their use as something negative.

6. Conclusions

As can be observed through studies at different points in time, PE is a process that is increasingly present in the professional translation market in Spain. To analyse the evolution of the reception of the PE in Spain in recent years, we must start from the negative opinions on the PE obtained in studies such as Rico & García (2016), Torres-Hostench et al. (2016) and Pérez-Macías et al. (2020), such as the need for training in MT and PE, the consideration of the use of these processes as a challenge, the mistrust they generate, the additional costs caused by the implementation of new tools or the prevalence of the human factor. On the contrary, the results obtained in the present study suggest that the tendency of the participants is to adopt a relatively more positive view of PE. This practice is perceived by most to be a positive phenomenon, an opportunity that can and should be taken advantage of. However, it still lags behind CAT

tools, which are much more established in the market. With the information provided by the subjects interviewed, it can be assumed that, in general, there is a perception that the profitability of PE projects can be improved, since rates are low, and it is considered necessary to invest a lot of time. Perhaps the development of MT engines should be taken into account here, as they are gradually being improved and this could optimise the time used for each project. As PE is a new phenomenon compared to translation, some bases have not yet been established on how to proceed in certain aspects, such as whether it is necessary to notify the client of its use if it is done based on the initiative of the translator, whether the rate is different from that of a translation or how to price a project of this type. A code of ethics dedicated exclusively to this practice could probably be useful to help professionals make some decisions in the context of PE projects. Currently, there are only a few documents written by different agents of the translation sector with minimal guidelines on this practice, but these are not sufficient to cover the needs of the translation sector. In summary, it can be appreciated that, in recent years, there have been significant changes in the perspectives related to this field. In order to continue analysing how the sector will evolve, further studies are needed on this topic taking into account the different agents involved over the coming years.

Finally, it should be mentioned here that the study presented could be of interest to the different agents in the professional translation sector (companies, associations, freelance translators, among others), as it can serve as a starting point to obtain information about different aspects related to PE (profitability, degree of implementation of this practice, interest of professionals in this practice, etc.).

References

- Cadwell, Patrick; O'Brien, Sharon; Teixeira, Carlos S. C. (2017). Resistance and accommodation: factors for the (non-) adoption of machine translation among professional translators. *Perspectives: Studies in translation theory and practice*, 1-21. <http://dx.doi.org/10.1080/0907676X.2017.1337210>. Accessed 24/11/19.
- Callejo, Javier. (2001). *El grupo de discusión: introducción a una práctica de investigación*. Ariel, Barcelona.
- Fink, Arlene. (2003). *The Survey Kit* (2nd edition). SAGE, Thousand Oaks (CA).
- Gaspari, Federico; Almaghout, Hala; Doherty, Stephen. (2015). A survey of machine translation competences: Insights for translation technology educators and practitioners. *Perspectives: Studies in Translatology*, v. 23, n. 3, pp. 333-358. <http://dx.doi.org/10.1080/0907676X.2014.979842>. Accessed 25/11/19.
- Gouadec, Daniel. (2007). *Translation as a Profession*. John Benjamins Publishing, Amsterdam/Philadelphia. <https://doi.org/10.1075/btl.73>
- Guerberof, Ana. (2012). *Productivity and quality in the post-editing of outputs from translation memories and machine translation*. PhD thesis. Universitat Rovira i Virgili.
- Koskinen, Kaisa; Ruokonen, Minna. (2017). Love letter or hate mail?: Translators' technology acceptance in the light of their emotional narratives". In: Kenny, Dorothy.

- (ed.). Human issues in translation technology: The IATIS yearbook. Routledge, London.
- Lesznyák, Ágnes. (2019). Hungarian translators' perceptions of neural machine translation in the European Commission. In: Proceedings of Machine Translation Summit XVII Volume 2: Translator, Project and User Tracks, pp. 16-22.
- Nida, Eugene. (1964). Toward a Science of Translating: With Special Reference to Principles and Procedures Involved in Bible Translating. Brill, Leiden.
- Oppenheim, Abraham N. (1992). Questionnaire Design, Interviewing and Attitude Measurement. Pinter Publishers, London.
- OPTIMALE, Optimising Professional Translator Training in a Multilingual Europe. (2011). The Optimale employer survey.
- Pérez-Macías, Lorena. (2017). Análisis de las percepciones en torno a la práctica de la posesición en el sector profesional de la traducción en España. PhD thesis. Universidad Pablo de Olavide.
- Pérez-Macías, Lorena; Rico, Celia; Forcada, Mikel. (2018). EAMT 2018 Translator Survey: report. http://www.eamt.org/translators_documents/eamt_2018_survey_report.pdf. Accessed 25/11/2020
- Pérez-Macías, Lorena; Sánchez-Ramos, M.^a Mar; Rico, Celia. (2020). Study on the Usefulness of Machine Translation in the Migratory Context: Analysis of Translators' Perceptions. *Open Linguistics*, 6(1): 68-76. <https://doi.org/10.1515/opli-2020-0004>.
- Rico, Celia. (2017). La formación de traductores en Traducción Automática. *Revista Tradumàtica. Technologies de la Traducció*, 15, pp. 75-96.
- Rico, Celia; García, Álvaro. (2016). Análisis del sector de la traducción en España (2014-2015). Universidad Europea de Madrid, Villaviciosa de Odón. <http://hdl.handle.net/11268/5057>. Accessed 28/04/19.
- Robson, Colin. 2011. *Real World Research* (3rd edition). Wiley, West Sussex.
- Rojo, Ana. (2013). *Diseños y Métodos de Investigación en Traducción* (e-book). Editorial Síntesis, Madrid.
- Rossi, Caroline; Chevrot, Jean-Pierre. (2019). Uses and perceptions of Machine Translation at the European Commission.
- Sanz, Sara. (2015). El traductor ante la traducción asistida por ordenador y la traducción automática con posesición: estudio comparado de actitudes hacia su uso, necesidad y evolución. Master's Dissertation. Universidad de Valladolid.
- Silverman, David. (2013). *Doing qualitative research: A practical handbook* (4th edition). Sage, Thousand Oaks, CA.
- Specia, Lucia; Torres, Ruth. (2012). Post-Editing practice – a survey of translators' preferences and concerns. In: Proceedings of the ETP-International Workshop on Expertise in Translation and Post-editing - Research and Application. Copenhagen: The Bridge.

- Suárez, Magdalena. (2005). El grupo de discusión: una herramienta para la investigación cualitativa. Laertes, Barcelona.
- Temizöz, Özlem. (2013). Postediting machine translation output and its revision: subject-matter experts versus professional translators. PhD thesis. Universitat Rovira i Virgili.
- Torres-Hostench, Olga; Presas, Marisa; Cid-Leal, Pilar (coords.). (2016). El uso de traducción automática y posesión en las empresas de servicios lingüísticos españolas: Informe de investigación ProjeCTA 2015. Bellaterra.
https://ddd.uab.cat/pub/estudis/2016/148361/usotraaut_2016.pdf. Accessed 20/02/19.
- Way, Catherine. (2016). The Challenges and Opportunities of Legal Translation and Translator Training in the 21st Century. *International Journal of Communication*, 10: 1009-1029.