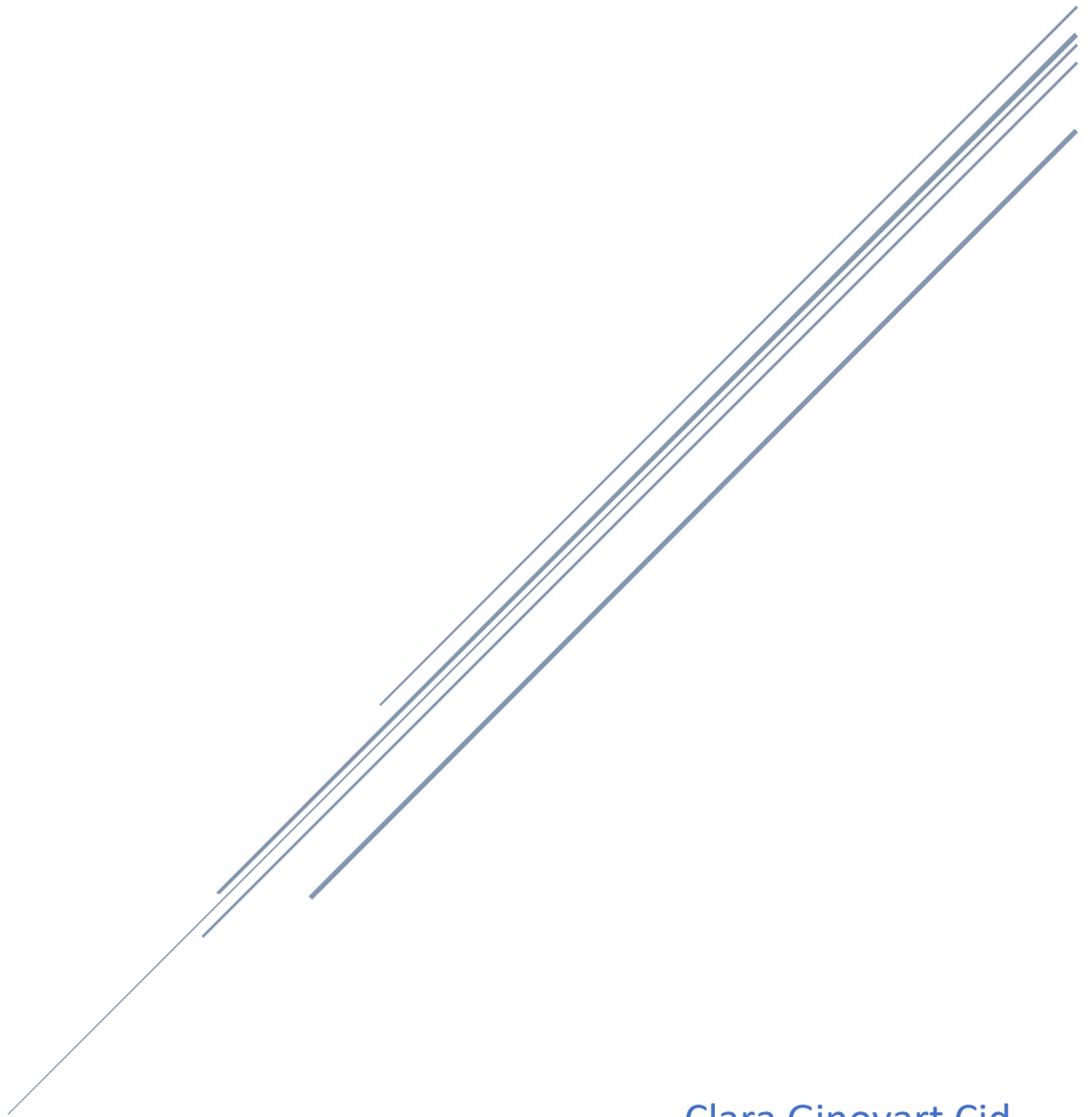


REPORT ABOUT A SURVEY-BASED RESEARCH ON MACHINE TRANSLATION POST-EDITING

Common ground and gaps between LSCs, linguists and trainers



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This report presents the findings of a survey-based research based on three online questionnaires. It is part of the Industrial Doctorates research n° “2017 DI 010”. One questionnaire is addressed to Language Service Companies (LSCs) that sell or use as a process machine translation post-editing (MTPE, also abbreviated PEMT). It received 66 submissions. Another questionnaire is addressed to individual linguists (inhouse or freelance) who accept MTPE assignments, and it received 141 submissions. Finally, the third questionnaire is addressed to European master or postgraduate PE educators, and it received 54 submissions.

The survey-based research is completed in between the end of 2018 and the beginning of 2019. In this report, the content of each questionnaire is presented in the first section ([1. Content of the Questionnaires](#)). In the second section ([2. Results of the Submissions](#)), the data of their findings is displayed, where the percentages have been rounded off.

The three related publications where the findings are discussed are cited below:

- Ginovart Cid C, Colominas C, Oliver A. Language industry views on the profile of the post-editor. *Translation Spaces*. 2020 Jan 14. DOI:10.1075/ts.19010.cid
- Ginovart Cid C. The Professional Profile of a Post-editor according to LSCs and Linguists: a Survey-Based Research. *HERMES - Journal of Language and Communication in Business*, 60, 171-190. 2020 Jul 08. DOI:10.7146/hjlc.v60i0.121318
- Ginovart Cid C, Oliver A. (2020). The post-editor’s skill set according to industry, trainers, and linguists. In J. Porsiel (Ed.), *Maschinelle Übersetzung für Übersetzungsprofis* (pp.305-322). Berlin: Bundesverband der Dolmetscher und Übersetzer (BDÜ).
- Ginovart Cid C, Colominas C. (2020). The MT post-editing skill set: course descriptions and educators’ thoughts. In M. Koponen, B. Mossop, I. S. Robert, G. Scocchera (Eds.), *Translation Revision and Post-editing. Industry Practices and Cognitive Processes* (pp. 226-246). Routledge. DOI: 10.4324/9781003096962

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1. Content of the Questionnaires

a. Questionnaire to LSCs

Title: Machine Translation & Post-editing in the Industry

URL: <https://form.jotformeu.com/82863740587368>

Description: This research is carried out within the framework of Clara Ginovart Cid's PhD at Pompeu Fabra University. It aims to identify the skills necessary for professional post-editors of machine translation.

Your participation in this survey-based empirical research is voluntary and your data will remain confidential and will only be used for research purposes. Please transfer it to the person in your firm who knows the most about the translation workflow.

Should you have any questions, feel free to contact clara.ginovart@upf.edu.

Filling out this questionnaire takes 15-20 minutes, depending on your expertise in machine translation post-editing. Required questions are marked with an asterisk.

At the end, you will be invited to leave your email address if you wish to receive a report with the results.

Content¹:

Section 1 - Basic Information

#	Question	Question type	Answers
1	Gender	Radio button	Female Male N/A
2	Age	Number	
3	What is the highest degree you have completed?	Radio button	High school Trade or vocational training Bachelor's degree Master's degree Doctorate degree Other (free text)
4	Job title	Free text	
5	Type of company	Radio button	Translation agency or Language Service Provider (LSP) Firm, company, corporation or publishing house Organization (NGO, public body...) Other (free text)

¹ The rows with blue background indicate they are under a conditional logic rule, therefore, only appear to certain respondents depending on their previous answers.

If 'Firm, company, corporation or publishing house' is selected in question #5, question #6 appears.			
6	Does it have a translation department?	Radio button	Yes No
7	Size of company	Radio button	Less than 10 employees Between 11 and 50 employees Between 51 and 500 employees More than 500 employees
8	Does it have office(s) in Europe?	Radio button	Yes No
9	Name of company	Free text	
10	Country	Scrolling menu	[The European countries for the menu were drawn from https://europa.eu/european-union/about-eu/countries_en]
If 'Other' is selected in the menu of question #10, question #10_1 appears.			
10_1	Please enter the European country where your firm/company has an office below	Free text	

Disqualification questions: If 'Organization (NGO, public body...)' is selected in question #5, the respondent was transferred to page 7 where s/he could read this message: "For this research, we are only considering LSPs, firms or corporations that translate content using machine translation and human post-editing.". If 'No' is selected in question #6 where applicable, the respondent was transferred to page 7 where s/he could read this message: "For this research, we are only considering LSPs, firms or corporations that have offices in Europe and that have a translation department.". If 'No' is selected in question #8 the respondent was transferred to page 7, where s/he could read this message: "Public organizations such as NGOs or public bodies are not considered for the moment. However, similar research among these institutions might be carried out in the near future. If you wish to participate in it, please leave your personal details below.".

Section 2 - MTPE Projects

Description: MTPE (machine translation post-editing, also abbreviated PEMT) is defined as "editing and correcting machine translation output". Machine translation is defined as "automatic translation of text from one natural language to another using a computer application".

Source: [ISO 18587-2017](https://www.iso.org/standard/72431.html)

#	Question	Question type	Answers
11	Does your company handle translation projects with post-editing of machine translation?	Radio button	Yes No
If 'Yes' is selected in question #11, question #11_1 appears.			
11_1	For which type of documents do you use MTPE?	Checkbox (multiple answer)	Documents with restricted access (low-visibility content) Publicly available documents (high-visibility)

			content) Other I do not know
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Disqualification question: If 'No' is selected in question #11, the respondent would be transferred to page 7 where s/he could read this message: "For this research, we are only considering LSPs, firms or corporations that translate content using machine translation and human post-editing."

Section 3 - Client-TSP Agreement [only visible to LSCs]

#	Question	Question type	Answers
12	Do you use an agreement between client and translation service provider (TSP)?	Radio button	Yes No
If 'Yes' is selected in question #12, question #13 appears.			
13	Does the client-TSP agreement contain any of the following elements?	Checkbox (multiple answer)	Project specifications: Linguistic compliance requirements (such as style guide, terminology, phraseology, etc.) Additional specifications: Corpora used to train MT engines (alignments to tune or customize the MT system) Additional specifications: Source texts content profile, pre-editing of the ST... Additional specifications: Quality of the MT system for the language pair of the project Additional specifications: Type of PE (light or full) Additional specifications: Use of technology (MT system) Additional specifications: Forbidden use of machine translation Additional specifications: Validation of the target content by the client experts or subsidiaries Additional specifications: Translation Quality Assessment (TQA) report of the target text Other (free text)

Section 4 - Current Trends in MTPE Projects

Description: The next three sections will ask the core questions of this survey.

Subsection 4.1 - Your MTPE Background

#	Question	Question type	Answers
14	How long have you been handling MTPE projects?	Radio button	Less than 1 year Between 1 and 5 years More than 5 years
15	What is the percentage of	Radio button	25% or less

	your translation production via post-editing (PE) of machine translation (MT)?		Between 26% and 50% Between 51% and 75% More than 76%
16	Please select the most frequent language pairs in which you translate content via MTPE.	Scrolling menus	[The languages were drawn according to the list of countries in question #10] [Up to three different source languages could be chosen with as many necessary target languages as necessary by holding the CTRL button, which was indicated in a bubble note: "For target languages, you can select more than one with CTRL key"]
<p>If 'Other' is selected as a source or target language in the scrolling menu of question #16, question #16_1 would appear with this text: <i>It seems that your language is not in the list. Please specify it below.</i> <i>Language codes may follow ISO 639-2 or ISO 639-3, and ">" shows direction towards. For instance "EN>FR" would be English into French. Feel free to write the name of the languages in full letters if you are not sure about the ISO code. To show bidirectionality you can use "<>", for instance: English<>French.</i></p>			
16_1	For which language pairs do you use MTPE?	Free text	
17	In general, who triggers the decision of translating content via MTPE?	Radio button	The client or requester of the translation Our own firm or company The end-users of the translated content Other (free text)
18 [only visible to LSCs]	Does the client ever send an MT output along with the source text?	Radio button	Yes, and they inform us of the MT system used Yes, and they do not inform us of the MT system used No
19	Are your MTPE projects generally post-edited with the source text as reference?	Radio button	No, the source text is not available (we do monolingual post-editing) Yes, it is bilingual editing: source + MT output Yes, it is trilingual editing: source + MT output + post-edited output
20	How do you decide if a ST is apt for machine translation and post-editing?	Checkbox (maximum of 2, as informed in the bubble note)	Content profiling (type of text, repetition rate, visibility, etc.) Current general quality of MT for the pair of languages at hand External factors play a central role: turnaround time & costs A thorough Source Text Analysis (STA) is carried out to evaluate non-translatability

			indicators Other (free text)
21	How do you decide if an MT output is of enough quality to be post-edited?	Checkbox (maximum of 2, as informed in the bubble note)	Automatic scoring (metrics like BLEU, TER, METEOR, etc.) Human evaluation by error categorization Machine Translation Quality Estimation (QE) or confidence scores (predictive) Human task-based evaluation: edit distance after post-editing Other (free text)
22	Have you ever used MT output without informing the client of such workflow?	Radio button	No Yes Yes, post-edited
23	What is the level of PE that is most often required?	Radio button	Light post-editing or "good enough" quality Full post-editing or "human" quality I do not know
24	To what extent are post-edited texts revised or checked by a second translator/reviser?	Radio button	They undergo both revision and a final check They are revised They undergo a final check I do not know
25	Which of the following PE scenario is most used in your firm or company?	Radio button	Improving medium quality raw output (acceptable) to high or publishable quality Improving poor quality raw output to medium (acceptable) quality Improving poor quality raw output to high or publishable quality. I do not know
26	Do you keep track of post-editors' productivity rate?	Radio button	Yes No
27	How many words per hour do you expect a post-editor to be able to post-edit on average?	Radio button	Less than 1000 wph Between 1000 and 3000 wph Between 3000 and 5000 wph More than 5000 wph
Controlled Language / Authoring			
28	Do you use any CL (controlled language) or CA (controlled authoring) tool to write content that you will later translate with MT?	Radio button	Yes No
If 'Yes' is selected in question #28, questions #29 and #30 appear.			
29	Who developed the controlled language(s)	Radio button	Internally at my firm or company A third party

	that you use to write or pre-edit content that you will translate using MT? ²		Other (free text) [Bubble note: If you use an existing one, such as ASD Simplified Technical English, please type its name in the field 'Other'.]
30	For what language(s) do you use CL or CA with a view of translating the content via MT?	Scrolling menu	

Subsection 4.2 - The Machine Translation Post-Editor Profile

#	Question	Question type	Answers
31	How many in-house post-editors work at your company?	Scrolling menu	None, we outsource MTPE projects 1 - 15 15 - 30 30 or more
32	How many freelance MT post-editors does your database contain?	Scrolling menu	None, we post-edit internally 1 - 15 15 - 30 More than 30
If any answer to question #31 was chosen except for 'None, we outsource MTPE projects', questions #33 and #34 appeared.			
33	Do your in-house post-editors work 100% of their time on MTPE projects?	Radio button	Yes, they work full-time on post-editing of MT No, they also translate or do translation project management No, they have a long list of other tasks
34	What workload do the following PE tasks represent for your in-house post-editors?	Matrix [Bubble note: "Leaving a box empty and choosing 'N/A' are the same."] (rows are randomized)	Column headers: Main task Secondary task Occasional task N/A Rows: Customization/Tuning of MT engines Feedback collection on MT output quality for solution engineers Management of MTPE projects: outsourcing, etc. Material preparation for MT engine training (building corpora, alignment, cleaning TM...) MT output quality evaluation (error categorization...) PE guidelines design Post-editing machine translation output Pre-editing the source text Proofreading of post-edited output (monolingual) Quality control & text checking Revision of post-edited MT output (bilingual)

² When too few respondents submit a positive answer for an optional question, the results are not reported in [2. Results of the Submissions.](#)

			Support users with CAT/MT tools Terminology extraction and TB management Tracking PE productivity
If any answer to question #32 was chosen except for 'None, we post-edit internally', questions #35 and #36 would appear.			
35	What workload do the following PE tasks represent for your freelance post-editors?	Matrix [Bubble note: Leaving a box empty and choosing 'N/A' are the same.] (rows are randomized)	Column headers: Main task Secondary task Occasional task N/A Rows: Customization/Tuning of MT engines Feedback collection on MT output quality for solution engineers Management of MTPE projects: outsourcing, etc. Material preparation for MT engine training (building corpora, alignment, cleaning TM...) MT output quality evaluation (error categorization...) PE guidelines design Post-editing machine translation output Pre-editing the source text Proofreading of post-edited output (monolingual) Quality control & text checking Revision of post-edited MT output (bilingual) Support users with CAT/MT tools Terminology extraction and TB management Tracking PE productivity
36	How do you usually pay for MTPE projects?	Radio button	Editing distance (post-analysis) Hour rate (time spent is established by the freelance post-editor) Hour rate (time spent is recorded by a programme) Source word rate (pre-analysis) Source page rate Target word rate Target page rate Other (free text)
Post-editor Recruitment Criteria			
37	Which of the following post-editor profiles would you value more for your MTPE projects?	Radio button	A professional with a stronger linguist profile (with some subject field knowledge) A professional with a stronger "expert" profile (with knowledge in languages)
"Please pay special attention to the next two questions . They are essential to guarantee sound results for this research."			
38	Which of the following criteria does your firm/company apply to recruit or select a post-editor of MT?	Matrix [Bubble note: Leaving a row empty or choosing 'Not important' is	Column headers: Mandatory Very important Important Not important Rows: Capacity to post-edit into both directions CAT tool(s) knowledge Certification in PE by a professional association (ProZ, TAUS, etc.) Experience in project management

		the same.] (rows are randomized)	<p>MT system knowledge</p> <p>Pre-editing or controlled language (CL) skills</p> <p>Previous experience in post-editing MT output</p> <p>Productivity (processing speed)</p> <p>Quality assurance (QA) checking skills</p> <p>Revision & proofreading skills</p> <p>Skills using automatic speech recognition (ASR) or touch-screen technology</p> <p>Specific locale (variant, sublanguage)</p> <p>Subject field knowledge or specialization</p> <p>Technical skills: macros, xliff, tmx, Java, RegEx...</p> <p>Terminology management & information mining skills</p> <p>Translation Quality Assessment (TQA) skills (scores, metrics, evaluation, etc.)</p> <p>University degree in Translation or related studies</p>
39	Please rate the following MT post-editing skills & competencies according to the importance you think they have for a professional post-editor. 1 = slightly important 5 = very important.	<p>Matrix</p> <p>[Bubble note: You can leave a row empty if you consider that the skill is not relevant for a professional MT post-editor.]</p> <p>(rows are randomized)</p>	<p>Column headers: 1 2 3 4 5</p> <p>Rows: Capacity to decide when to edit or discard (translate from scratch) an MT result</p> <p>Capacity to post-edit according to PE guidelines</p> <p>Capacity to post-edit up to human quality (full PE)</p> <p>Capacity to post-edit to a good enough quality (light PE)</p> <p>Capacity to pre-edit a source text according to CL</p> <p>Capacity to train & tune an MT engine</p> <p>Capacity to identify MT output errors</p> <p>Capacity to apply the right correction strategy</p> <p>Capacity to advise when MTPE is appropriate for a text or project</p> <p>Capacity to provide feedback for the MT solution engineers</p> <p>Capacity to learn about new technologies</p>
40	If you ever receive unsatisfactory deliveries, in what way do they not respect the MTPE assignment?	Radio button	<p>It does not happen; our post-edited texts are always fit for purpose</p> <p>They are under-edited (necessary corrections to the MT output are not applied)</p> <p>They are over-edited (preferential changes that were not required are applied)</p> <p>They are pseudo-edited (the post-editor introduces errors that were not present in the MT output)</p> <p>I do not know</p> <p>Other (free text)</p>
41	Do you have a recruitment test for post-editors, different from the one for translators?	Radio button	<p>Yes</p> <p>No</p>

Subsection 4.3 - The MT Post-editing project

Post-editing Assignment or Brief			
#	Question	Question type	Answers
42	Do you use a post-editing assignment or brief?	Radio button	Yes, we give detailed information: MT system used, how it was trained, metrics and scores of its quality, PE guidelines, among other items Yes, we might provide some information: explanation of the workflow or PE guidelines No
Unless 'No' is selected in question #42, question #42_1 would appear.			
#42_1	Which of the following does the PE assignment/brief include?	Checkbox [Bubble note: This is a multiple answer question.]	Content profile (type of text, communication channel, STA...) Examples of scenarios indicating when to discard a segment (= translate from scratch) Information on how the MT engine was trained and its most frequent errors Metrics about MT output quality MT system architecture information (hybrid, rule-based, statistical, neural) Name of the machine translation (MT) system PE guidelines: general list of do's and don't's (such as: ""fix misspelling errors: YES"", ""improve the style: NO"") PE guidelines: list of examples tailored to the language pair PE level: light or full post-editing Other (free text)
Post-editing Guidelines			
43	Which PE guidelines do you send to the post-editor?	Radio button	Internally customized and fixed for the whole firm or company Internally customized and tailored to content type or language TAUS post-editing guidelines Only PE level indication (light or full post-editing) Other (free text)
Post-editor Feedback			
44	Do you ask your post-editor for feedback concerning MT output in order to improve the MT system?	Radio button	Yes No

If 'Yes' is selected in question #44, question #44_1 appears.			
44_1	What elements are sent by the post-editor after a MTPE project?	Checkbox [Bubble note: This is a multiple answer question.]	Examples of ST errors that turned into MT errors Examples of recurrent errors: only an informal list of words Examples of recurrent errors (in a structured template): source, MT output, and post-edited output General description of how the MT engine performs Type of error: collocation, syntax, grammar, spelling, punctuation, terminology... Severity of the errors: critical, major, minor, neutral... Other (free text)
TQA (Translation Quality Assessment)			
45	Do you use a Translation Quality Assessment (TQA) system on MTPE projects?	Radio button	Yes, one integrated in the CAT tool Yes, one not integrated in the CAT tool No Other (free text)
If any answer except for 'No' is selected for question #45, questions #45_1 and #45_2 appear.			
45_1	Is your TQA model defined according to a risk management strategy?	Radio button	Yes No I do not know
45_2	Which of the following TQA systems do you use?	Checkbox [Bubble note: Select a maximum of 2.]	ATA (American Translators Association) error categorization ITS 2.0 Localization quality issues LISA QA Metric MQM (Multidimensional Quality Metrics) MTM LinguaSoft QA Model SAE J2450 SDL TMS Classic Model TAUS DQF (offline) TAUS DQF Dashboard (online) Other (free text)

Section 5 - Training in Machine Translation Post-editing

#	Question	Question type	Answers
46	Does your firm/company offer MTPE training?	Radio button	We haven't organized one as of yet We have organized at least one Training on MTPE is organized regularly

If any answer is selected in #46 except for 'We haven't organized one as of yet', questions #47 and #48 appear.			
47	Who attends the MTPE training?	Scrolling menu	Both in-house and freelance linguists In-house linguists Freelance linguists
If 'Both in-house and freelance linguists' is selected in question #47, question #48 would appear.			
48	Does the training change depending on who is attending?	Radio button	Yes No
If 'Yes' is selected in question #48, question #49 would be hidden and questions #49_1 and #49_2 would appear instead.			
49	Who is the trainer?	Radio button	In-house staff TAUS Post-Editing/Reviewing Course ³ Other (free text)
49_1	Who is the trainer for in-house participants?	Radio button	In-house staff TAUS Post-Editing/Reviewing Course Other (free text)
49_2	Who is the trainer for freelance participants?	Radio button	In-house staff TAUS Post-Editing/Reviewing Course Other (free text)
50	How is the training organized?	Radio button	Presential Online (videoconference) Online (recorded) Semi-presential Other (free text)
If 'Yes' is selected in question #48, question #50 would be hidden and questions #50_1 and #50_2 would appear instead.			
50_1	How is the training organized for in-house participants?	Radio button	Presential Online (videoconference) Online (recorded) Semi-presential Other (free text)
50_2	How is the training organized for freelance participants?	Radio button	Presential Online (videoconference) Online (recorded) Semi-presential Other (free text)
If 'In-house staff' is selected either in question #49, #49_1, or #49_2, question #51 would appear.			
51	Do you know what the training provided by in-house staff includes?	Radio button	Yes No
If 'Yes' is selected in question #51, question #52 would appear.			
52	What elements does the training include?	Checkbox [Bubble note:	Description of content profiles and text types according to MT systems Integration between CAT tool and MT system

³ Answer sponsored by TAUS.

		This is a multiple answer question.]	<p>MT evaluation: automatic & reference-based (metrics)</p> <p>MT evaluation: human (scoring, ranking, error categorization)</p> <p>MT systems: rule-based, example-based, statistical, hybrid, or neural</p> <p>PE attitude: decide when to discard and translate from scratch</p> <p>PE guidelines: exhaustive list and examples in the relevant language pair</p> <p>PE levels: light and full post-editing</p> <p>Practical PE exercises in the relevant language pair</p> <p>PE risks: under-editing, over-editing & pseudo-editing</p> <p>PE techniques and strategies (shift, replacement, addition, deletion)</p> <p>PE technology: PE tool, ASR, touch-screen...</p> <p>Pre-editing and controlled languages</p> <p>Productivity tracking tools</p> <p>Quality estimation or confidence scores (predictive, without post-edited gold reference)</p> <p>Other (free text)</p>
If 'Yes' is selected in question #48 and 'Yes' is selected in #51, question #52 would be hidden and #52_1 would appear instead.			
52_1	Which elements does the training include for each type of attendees?	Matrix	<p>Column headers: For in-house participants For freelance</p> <p>Rows:</p> <p>Description of content profiles and text types according to MT systems</p> <p>Integration between CAT tool and MT system</p> <p>MT evaluation: automatic & reference-based (metrics)</p> <p>MT evaluation: human (scoring, ranking, error categorization)</p> <p>MT systems: rule-based, example-based, statistical, hybrid, or neural</p> <p>PE attitude: decide when to discard and translate from scratch</p> <p>PE guidelines: exhaustive list and examples in the relevant language pair</p> <p>PE levels: light and full post-editing</p> <p>Practical PE exercises in the relevant language pair</p> <p>PE risks: under-editing, over-editing & pseudo-editing</p> <p>PE techniques and strategies (shift, replacement, addition, deletion)</p> <p>PE technology: PE tool, ASR, touch-screen...</p> <p>Pre-editing and controlled languages</p> <p>Productivity tracking tools</p> <p>Quality estimation or confidence scores (predictive, without post-edited gold reference)</p> <p>Other (free text)</p>

Section 6 - Technology & Tools

#	Question	Question type	Answers
53	What MT architecture does your MT system have?	Checkbox [Bubble note: Select a	Rule-based Statistical Neural

		maximum of 2. Please write in 'Other' if you use a hybrid version.]	I do not know Other (free text)
54	What MT provider(s) do you use most often for your MTPE projects?	Scrolling menus	[1 st and 2 nd most used MT providers could be chosen from the list below] Amazon Translate Apertium Babylon Baidu Translate Bing Microsoft Translator DeepL Translator Google Translate Hub (Microsoft Translator for Business) IBM (Watson Language Translator) KantanMT Libellex (Lingua et Machina) Lucy Software ModernMT Moses Omniscien Technologies OpenLogos OpenNMT PangeaMT PROMT SDL: AdaptiveMT, LanguageCloud, ETS Slate Desktop Systran tauyou Tilde MT (LetsMT!) Yandex.Translate One developed by my company Other
If 'Other' was selected in question #54, question #54_1 would appear			
54_1	What MT provider do you use?	Free text	
55	Do you use existing translation memories and/or glossaries to train, customize or tune an MT engine?	Radio button	Yes No I do not know
56	Is your MT system integrated to any productivity tools other than a CAT tool?	Radio button	Yes, with localization software Yes, with subtitling software Yes, both with localization and subtitling software No Other (free text)
57	Are MT output and TM results combined in the editor?	Radio button	Yes No
If 'No' is selected in #57, question #58 would appear. If 'Yes' is selected in #57, questions #59 to #62 would appear.			

TM/MT Not integrated			
58	In what tool is the MT output post-edited?	Radio button	processing tool MT editor Other (free text)
Integrated TM/MT			
59	In which tool are MT and TM integrated?	Radio button	CAT tool MT editor Other (free text)
60	What CAT tool(s) do you use most often?	Scrolling menus	[The 1 st and 2 nd most used CAT tools could be selected from the list below] Across CafeTran Espresso Catalyst Déjà Vu Felix-CAT Fluency GlobalLink GlobalSight Localize MateCat Memsources memoQ MetaTaxis MultiTrans OmegaT Pairaphrase Pootle SDL Passolo SDL Trados Studio Similis Smartcat SmartMATE Subtitle Workshop Swordfish Translation Editor TextMaster TO3000 3D Transit (STAR) Transifex TranslationQ (Televic) Virtaal Visual Localize Wordbee Wordfast XTM Cloud One developed by my company
61	Does the post-editor see the origin of the translation result?	Radio button [Bubble note: Can the post-editor know if the segment at hand is a translation memory result or a	Yes No I do not know

		machine translation output?]	
62	Do you offer "repaired" segments? (both TM result and MT output mixed to build the fuzzy to be post-edited)	Radio button	Yes No I do not know
If answer to question #26 was 'Yes', #63 would appear.			
63	What tool do you use to track the productivity rate?	Checkbox [Bubble note: Select a maximum of 2.]	Excel sheet Klok Project management programs like Plunet, XTRF, Lotus, Everwin, Trello, Dapulse, etc. Qualityity Software developed internally TAUS DQF None Other (free text)
64	Do the post-editors use any of the following tools to perform quality assurance (QA) checks?	Checkbox [Bubble note: Select a maximum of 2.]	Antidote Checkmate ContentQuo globalReview Language Tool lexiQA Project Open Translation Quality QA Distiller TQAuditor Verifika Xbench None Other (free text)
If 'Yes' is selected in question #28, question #65 appears.			
65	What controlled authoring tool do you use most often?	Radio button	Acrolinx CLAT Congree CrossAuthor HyperSTE MaxIT MindReader None, only text processing tools. Other (free text)

Section 7 - Feelings & Thoughts

#	Question	Question type	Answers
66	Do you think that current PE training courses are adequate for a professional	Radio button	Yes No Other (free text)

	post-editor position?		
67	Would you like to have access to an online platform that allows your firm/company to send PE assignments to post-editing trainees?	Radio button [Bubble note: A sort of 'virtual internship'. If you are not sure, please explain why in the 'Other' box.]	Yes No Other (free text)
68	Are you aware of the publication of or existing work on any of the following standards?	Checkbox [You can select more than one answer].	ISO 18587:2017 Translation services — Post-editing of machine translation output ASTM WK46396 New Practice for Development of Translation Quality Metrics No Other (free text)
69	Please enter here any comments that you might have on the questions of this survey.	Free text	

Acknowledgment message: Thank you!

Should you agree to be contacted to discuss some of the questions of this survey, please enter your e-mail and full name below: [e-mail field] [full name field]

If you only wish to receive a report with the results of this survey, please leave your e-mail below: [e-mail field]

b. Questionnaire to linguists

Title: Survey for Post-editors of Machine Translation

URL: <https://form.jotformeu.com/82855955787379>

Description: This research is carried out within the framework of Clara Ginovart Cid.

It aims to identify the skills and competencies necessary for professional post-editors of machine translation. It is addressed to professionals who, as part of their job, post-edit machine translated content.

Your participation in this survey-based empirical research is voluntary and your data will remain confidential and will only be used for research purposes.

Should you have any questions, feel free to contact Clara at clara.ginovart@upf.edu.

Filling in this questionnaire takes around 15 minutes. Required questions are marked by an asterisk.

At the end, you will be invited to leave your e-mail address if you wish to receive a report with the results.

Content:

Section 1 - Basic Information

#	Question	Question type	Answers
1	Full name	Pre-defined field	[field for name] [field for last name]
2	Gender	Radio button	Female Male Prefer not to say
3	Age	Number	
4	What is the highest degree you have completed?	Radio button	High school Trade or vocational training Bachelor's degree Master's degree Doctorate degree Other (free text)
5	Is your current country of residence in Europe?	Radio button	Yes No
5	Type of company	Radio button	Translation agency or Language Service Provider (LSP) Firm, company, corporation or publishing house Organization (NGO, public body...) Other (free text)
If 'Yes' is selected in question #5, question #6 appears.			
6	Country	Scrolling menu	[The European countries for the menu were

			drawn from https://europa.eu/european-union/about-eu/countries_en
If 'No' is selected in question #5, question #6_1 appears.			
6_1	Please enter your country of residence below.	Free text	
7	Are you bilingual?	Radio button	Yes No
8	What is your mother tongue?	Scrolling menu	[The languages were drawn according to the list of countries in question #6] [Note: For bilinguals, this is considered their first language.]
If 'Yes' is selected in question #7, question #8_1 appears.			
8_1	8_1. What is your second language?	Scrolling menu	[The languages were drawn according to the list of countries in question #6]

Section 2 - MTPE (machine translation post-editing) Projects

Description: MTPE (machine translation post-editing, also abbreviated PEMT) is defined as "editing and correcting machine translation output". Machine translation is defined as "automatic translation of text from one natural language to another using a computer application".

Source: [ISO 18587-2017](https://www.iso.org/standard/68811.html)

#	Question	Question type	Answers
#9	Have you ever worked on a MTPE (machine translation post-editing) project?	Radio button	Yes No
#10	Is professional translation your main source of income?	Radio button	Yes No
If 'No' is selected in question #10, question #10_1 appears.			
#10_1	In what context have you worked in a MTPE (machine translation post-editing) project?	Free text	
If 'Yes' is selected in question #10, question #10_2 appears.			
#10_2	What status do you hold?	Radio button	In-house, in an LSP (language service provider) In-house, in a firm or corporation Freelance or independent Other (free text)
#11	What is your job title?	Radio button	CAT Tools Consultant Country Manager Linguistic Communication Officer

			Multilingual Coordinator Post-editor Reviewer Translator Other (free text)
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Disqualification questions: if ‘No’ is selected in question #9, the respondent is directed to the end of the survey and the following note is displayed: “For this research, we are only considering professionals that have already worked with machine translation to post-edit its output.”

Section 3 - Certifications

#	Question	Question type	Answers
#12	Do you have any of the following certifications?	Checkbox [Bubble note: This is a multiple answer question.]	I have no extra certification so far ProZ Certified PRO SDL Project Manager Certified SDL Translator Certified TAUS Quality Assurance Manager Certified TAUS Post-Editing Certified Other (free text)

Section 4 - Current Trends in MTPE Projects

Subsection 4.1 - Your MTPE Background

Description: “The next three sections will ask the core questions of this survey.”

#	Question	Question type	Answers
#13	How long have you been handling MTPE projects?	Radio button	Less than 1 year Between 1 and 5 years More than 5 years
#14	What percentage of your translation is produced via post-editing (PE) of machine translation (MT)?	Radio button	25% or less Between 26% and 50% Between 51% and 75% More than 76%
#15	For which type of documents do you use MTPE?	Checkbox (multiple choice)	Documents with restricted access (low-visibility content) Publicly available documents (high-visibility content) Other (free text)
#16	Please select the most frequent language pairs in which you have post-edited	Scrolling menu	[The languages were drawn according to the list of

	machine translation output.		countries in question #6] [Up to three different source languages could be chosen with as many necessary target languages as necessary by holding the CTRL button, which was indicated in a bubble note: "For target languages, you can select more than one with CTRL key."]
<p>If 'Other' is selected in question #16, question #16_1 appears. And the following note:</p> <p>It seems that your language is not in the list. Please specify it below.</p> <p>Language codes follow ISO 639-2, and ">" shows direction towards. For instance "EN>FR" would be English into French. Feel free to write the name of the languages in full letters if you are not sure about the ISO code. The symbol "<>" can be used to show bidirectionality, for instance "French<>English".</p>			
#16_1	Please enter the language pair(s) in which you post-edit machine translation below:	Free text	
#17	In what order do you read the source text and MT output in a MTPE project?	Radio button	I read the source segment first I read the target segment first I don't know Other (free text)
<p>If 'Freelance or independent' is selected in #10_2, question #18 is displayed.</p>			
#18	As a freelance post-editor, do you receive more post-editing projects from LSPs or from particulars/direct clients?	Radio button	Most of the work I do is for LSP Most of the work I do is for particular clients It is actually half and half I don't know Other (free text)
#19	In general, who triggers the decision of translating content via MTPE?	Radio button	Myself The client or requester of the translation The end-users of the translated content Other (free text)
#20	Does the requester of the translation ever send an MT output along with the source	Radio button	Yes, and they inform me of the MT system used Yes, and they do not inform

	text (ST)?		me of the MT system used No
#21	Are your MTPE projects generally post-edited with the source text as reference?	Radio button	No, the source text is not available in general. I do monolingual post-editing. Yes, it is a bilingual editor: source + MT output Yes, it is a trilingual editor: source + MT output + post-edited output Other (free text)
If 'Freelance or independent' is selected in #10_2, question #22 is displayed.			
#22	How do you usually rate MTPE projects?	Radio button	Editing distance (post-analysis) Hour rate Hour rate (and time spent is recorded by a software) Source word rate (pre-analysis) Source page rate Target word rate Target page rate Other (free text)
#23	What is the level of PE that is most often required?	Radio button	Light post-editing or 'good enough' quality Full post-editing or 'human' quality I don't know
#24	Which of the following PE scenarios do you most often find yourself in?	Radio button	Improving medium (acceptable) quality raw output to high or publishable quality. Improving poor quality raw output to medium (acceptable) quality. Improving poor quality raw output to high or publishable quality. Other (free text)
#25	How many words per hour do you post-edit per hour, on average?	Radio button	Less than 1000 wph Between 1000 and 3000 wph Between 3000 and 5000 wph More than 5000 wph
#26	Do you keep track of your productivity rate? (speed /	Radio button	Yes No

	number of words)		
#27	What 2 factors do you consider more important to decide if an MT output is of enough quality to be post-edited?	Checkbox (maximum of 2, as informed in the bubble note)	Automatic scoring (metrics like BLEU, TER, METEOR, etc.) Human evaluation by error categorization Machine Translation Quality Estimation (QE) or confidence scores (predictive) Human task-based evaluation: edit distance after post-editing Other (free text)
Controlled Language / Authoring			
#28	Have you ever used any controlled language (CL) or controlled authoring (CA) tool to write or pre-edit content that will be translated with MT?	Radio button	Yes No
If 'Yes' is selected in #28, questions #28_1 and #28_2 appear.			
#28_1	Who developed the controlled language(s) that you use?	Radio button	The firm, company, LSP or client I work for A third party Other (free text)
#28_2	For what language(s) have you used a CL?	Scrolling menu	[The languages were drawn according to the list of countries in question #6]
If 'Other' is selected in #28_2, question #28_3 appears.			
#28_3	You chose 'Other' in the previous question, what language did you use a CL for?	Free text	
#29	Are you involved in deciding if a source text is apt for MT and post-editing?	Radio button	Yes No
If 'Yes' is selected in #29, question #29_1 appears.			
#29_1	How do you decide if a ST is apt for machine translation and post-editing?	Checkbox (maximum of two as indicated in bubble note: "Please select the two most important factors that determine your	Content profiling (type of text, repetition rate, visibility, etc.) Current general quality of MT for the pair of languages at hand External factors play a

		decision.”)	central role: turnaround time & costs A thorough Source Text Analysis (STA) is carried out to evaluate non-translatability indicators Other (free text)
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Subsection 4.2 - The Machine Translation Post-Editor Profile

#	Question	Question type	Answers
#30	Have you ever used MT without informing the requester of such workflow?	Radio button	Yes No I prefer not to answer
#31	Have you ever post-edited MT output of a language in which you are not native?	Radio button	Yes No I prefer not to answer

Note: Please pay special attention to the next three questions. They are of paramount importance for the present research.

#	Question	Question type	Answers
#32	What workload do the following PE tasks represent for you?	Matrix [Bubble note: “Choosing N/A or leaving a row empty is the same.”] (rows are randomized)	Column headers: Main task Secondary task Occasional task N/A Rows: Customization/Tuning of MT engines Feedback collection on MT output quality for solution engineers Management of MTPE projects: outsourcing, etc. Material preparation for MT engine training (building corpora, alignment, cleaning TM...) MT output quality evaluation (error categorization...) PE guidelines design Post-editing machine translation output Pre-editing the source text Proofreading of post-edited output (monolingual) Quality control & text checking Revision of post-edited MT output (bilingual) Support users with CAT/MT tools Terminology extraction and TB management Tracking PE productivity
#33	Please range the following MT post-editing skills & competencies according to the importance you think they have for a professional post-editor. 1 = slightly important 5 =	Matrix [Bubble note: “You can leave a row empty if you consider that the skill is not relevant	Column headers: 1 2 3 4 5 Rows: Capacity to decide when to edit or discard (translate from scratch) an MT result Capacity to post-edit according to PE guidelines Capacity to post-edit up to human quality (full PE) Capacity to post-edit to a good enough quality (light PE) Capacity to pre-edit a source text according to CL Capacity to train & tune an MT engine

	very important	for a professional MT post-editor.”] (rows are randomized)	Capacity to identify MT output errors Capacity to apply the right correction strategy Capacity to advise when MTPE is appropriate for a text or project Capacity to provide feedback for the MT solution engineers Capacity to learn about new technologies
#34	Which of the following criteria do you think a firm or company will apply to select or recruit a professional post-editor?	Matrix [Bubble note: “Leaving a row empty or choosing 'Not important' is the same.”] (rows are randomized)	Column headers: Mandatory Very important Important Not important Rows: Capacity to post-edit into both directions CAT tool(s) knowledge Certification in PE by a professional association (ProZ, TAUS, etc.) Experience in project management MT system knowledge Pre-editing or controlled language (CL) skills Previous experience in post-editing MT output Productivity (processing speed) Quality assurance (QA) checking skills Revision & proofreading skills Skills using automatic speech recognition (ASR) or touch-screen technology Specific locale (variant, sublanguage) Subject field knowledge or specialization Technical skills: macros, xlf, tmx, Java, RegEx... Terminology management & information mining skills Translation Quality Assessment (TQA) skills (scores, metrics, evaluation, etc.) University degree in Translation or related studies
#35	In which of the following PE risks would you fall more easily into?	Radio button	None, my post-edited output is always fit for purpose Under-editing (necessary corrections to the MT output are not applied) Over-editing (preferential changes that were not required are applied) Pseudo-editing (errors not present in the MT output are introduced) I do not know Other (free text)
#36	Have you ever done a post-editing test to be recruited or selected?	Radio button	Yes No

Subsection 4.3 - The MT Post-editing project

#	Question	Question type	Answers
PE Assignment or Brief			
#37	Do you receive a post-editing assignment/brief that is different from the traditional translation assignment?	Radio button	Yes, the requester sends me detailed information: MT system used, how it was trained, metrics and scores of its quality... The requester might provide with some information: MT system used or general explanation of the workflow No
If any answer except for 'No' is selected in #37, questions #37_1 and #37_2 appear.			

#37_1	What of the following does the PE assignment/brief include?	Checkbox (multiple choice) (answers are randomized)	Content profile (type of text, communication channel, STA...) Examples of scenarios indicating when to discard a segment (= translate from scratch) Information on how the MT engine was trained and its most frequent errors Metrics about MT output quality MT system architecture information (hybrid, rule-based, statistical, neural) Name of the machine translation (MT) system PE guidelines: general list of do's and don't's (such as: "fix misspelling errors: YES", "improve the style: NO") PE guidelines: list of examples tailored to the language pair PE level: light or full post-editing Other (free text)
#37_2	Are there any elements that haven't been included in the previous question that you would find useful when doing a PE assignment?	Free text	
PE Guidelines			
#38	Does the requester send PE guidelines to you?	Radio button	Yes No
If 'No' is selected in #38, #38_1 will appear.			
#38_1	Do you use PE guidelines nevertheless?	Radio button	Yes No
If 'No' is selected in #38_1, question #38_2 is hidden.			
#38_2	Which PE guidelines do you use?	Radio button	Internally customized general PE guidelines Internally customized and tailored to content type or language TAUS post-editing guidelines Only PE level indication (light or full post-editing) Other (free text)
Feedback for MT improvement			
#39	Does the requester ask you to provide feedback on the MT output in order to improve the MT system?	Radio button	Yes No
If 'Yes' is selected in #39, #39_1 appears.			
#39_1	What elements do you provide as feedback about a MTPE project?	Checkbox (Bubble note: "This is a multiple answer question.") (answers are randomized)	Examples of ST errors that turned into MT errors Examples of recurrent errors: only an informal list of words Examples of recurrent errors (in a structured template): source, MT output, and post-edited output General description of how the MT engine performs Type of error: collocation, syntaxis, spelling, punctuation, terminology... Severity of the errors: critical, major, minor, neutral... Other (free text)
TQA (Translation Quality Assessment)			
#40	Does the requester of the MTPE project impose a TQA system?	Radio button	Yes No

If 'No' is selected in #40, #40_1 appears.			
#40_1	Do you use one nevertheless?	Radio button	Yes No
If 'No' is selected in #40_1, questions #41, #42, and #43 will be hidden.			
#41	Is the TQA system integrated to your CAT tool?	Radio button	Yes No
#42	Is your TQA model defined according to a risk management strategy?	Radio button	Yes No I don't know
#43	Which one of the following TQA system(s) do you use?	[max. of 2 as informed in bubble note: Select a maximum of 2.] (answers are randomized)	A customized checklist provided by my company ATA (American Translators Association) error categorization ITS 2.0 Localization quality issues LISA QA Metric MQM (Multidimensional Quality Metrics) MTM LinguaSoft QA Model SAE J2450 SDL TMS Classic Model TAUS DQF (offline) TAUS DQF Dashboard (online) Other (free text)

Section 5 - Training & Education

#	Question	Question type	Answers
#44	Do you have a University degree related to translation?	Radio button	Yes, Master or higher Yes, Bachelor No
If 'No' is selected in #44, question #44_1 appears.			
#44_1	What studies do you have?	Free text	

Subsection 5.1 - Training in Post-editing of MT

#	Question	Question type	Answers
#45	Which of the following post-editing training courses have you attended?	Checkbox [Bubble note: This is a multiple answer question.] (answers are randomized)	One provided by my firm, company, LSP or client One at University TAUS Post-Editing Course One provided by another association or organization I have never attended a training course on MTPE Other (free text)
If 'One provided by my firm, company, LSP or client' is checked in #45, questions #46 to #50 are displayed.			

Training offered to you by your firm, company, LSP or client			
#46	Who was the trainer?	Radio button	In-house staff Other (free text)
#47	Was the MTPE course presential or online?	Radio button	Presential Online (videoconference) Online (recorded) Semi-presential
#48	Approximative duration in hours:	Number	
#49	Which elements does the training include?	Checkbox (answers are randomized)	Description of content profiles and text types according to MT systems Integration between CAT tool and MT system MT evaluation: automatic & reference-based (metrics) MT evaluation: human (scoring, ranking, error categorization) MT systems: rule-based, example-based, statistical, hybrid, or neural PE attitude: decide when to discard and translate from scratch PE guidelines: exhaustive list and examples in the relevant language pair PE levels: light and full post-editing Practical PE exercises in the relevant language pair PE risks: under-editing, over-editing & pseudo-editing PE techniques and strategies (shift, replacement, addition, deletion) PE technology: PE tool, ASR, touch-screen, etc. Pre-editing and controlled languages Productivity tracking tools Quality estimation (predictive, without post-edited gold reference) Other
#50	Did it have an evaluation test or did it provide a certificate?	Radio button	Yes, evaluation test Yes, certification Yes, both No Other (free text)
If 'One at University' is checked in #45, questions #51 to #56 are displayed.			
Training provided by a University			
#51	How was the University training on MTPE?	Radio button	A single subject matter Another subject matter that included some post-editing Other (free text)
#52	At which University did you have a course on MTPE?	Free text	
#53	Could you please provide the link to the website of the University studies?	Free text	
#54	Was the MTPE course presential or online?	Radio button	Presential Online (videoconference) Online (recorded) Semi-presential
#55	Approximate duration in hours:	Number	

#56	Did it have an evaluation test or did it provide a certificate?	Radio button	Yes, evaluation test Yes, certification Yes, both No Other (free text)
If 'One provided by another association or organization' is checked in #45, questions #57 to #62 are displayed.			
Training provided by another group or association / Other (optional)			
#57	Who was the training provider?	Free text	
#58	Could you please give the link to the website of the training?	Free text	
#59	Was the MTPE course presential or online?	Radio button	Presential Online (videoconference) Online (recorded) Semi-presential
#60	Approximate duration in hours:	Number	
#61	Which elements did the training include?	Checkbox (answers are randomized)	Description of content profiles and text types according to MT systems Integration between CAT tool and MT system MT evaluation: automatic & reference-based (metrics) MT evaluation: human (scoring, ranking, error categorization) MT systems: rule-based, example-based, statistical, hybrid, or neural PE attitude: decide when to discard and translate from scratch PE guidelines: exhaustive list and examples in the relevant language pair PE levels: light and full post-editing Practical PE exercises in the relevant language pair PE risks: under-editing, over-editing & pseudo-editing PE techniques and strategies (shift, replacement, addition, deletion) PE technology: PE tool, ASR, touch-screen, etc. Pre-editing and controlled languages Productivity tracking tools Quality estimation (predictive, without post-edited gold reference) Other (free text)
#62	Did it have an evaluation test or did it provide a certificate?	Radio button	Yes, evaluation test Yes, certification Yes, both No Other (free text)
If 'I have never attended a training course on MTPE' is checked in #45, question #63 is displayed.			

Never attended any course on post-editing of machine translation			
#63	Which is the most important reason why you have never been trained on MT post-editing?	Radio button	I think I do not need it or my current training is enough Lack of time Training courses are too expensive I do not know any training on MTPE Other (free text)

Section 6 - Technology & Tools

#	Question	Question type	Answers
#64	Please select the CAT tool(s) that you use most often for MTPE projects.	Scrolling menus	[The respondent could select the first most used and second most used of this list built by the author from sources such as EAMT:] Across CafeTran Espresso Catalyst Déjà Vu Felix-CAT Fluency GlobalLink GlobalSight Localize MateCat Memsources memoQ MetaTaxis MultiTrans OmegaT Pairaphrase Pootle SDL Passolo SDL Trados Studio Similis Smartcat SmartMATE Subtitle Workshop Swordfish Translation Editor TextMaster TO3000 3D Transit (STAR) Transifex TranslationQ (Televic) Virtaal Visual Localize Wordbee Wordfast XTM Cloud One developed by my company
#65	What MT architecture does your MT system have?	Checkbox [Bubble note: Select a maximum of 2. Please write in 'Other' if you use a hybrid version.]	Rule-based Statistical Neural I don't know Other
#66	What MT provider(s) do you use most	Scrolling menus	[The respondent could select the first most used and second most used of this list built

	often for MTPE projects?		by the author from sources such as EAMT:] Amazon Translate Apertium Babylon Baidu Translate Bing Microsoft Translator DeepL Translator Google Translate Hub (Microsoft Translator for Business) IBM (Watson Language Translator) KantanMT Libellex (Lingua et Machina) Lucy Software ModernMT Moses Omniscien Technologies OpenLogos OpenNMT PangeaMT PROMT SDL: AdaptiveMT, LanguageCloud, ETS Slate Desktop Systran tauyou Tilde MT (LetsMT!) Yandex.Translate One developed by my company
#67	Do you use existing translation memories and/or glossaries to train, customize or tune an MT engine?	Radio button	Yes No I don't know
#68	Is your MT system integrated to any translation productivity tool(s) other than a CAT tool?	Radio button	Yes, to localization software Yes, to subtitling software Yes, both with localization and subtitling software No Other (free text)
#69	Are MT output and TM results combined in the editor?	Radio button	Yes No
TM/MT Not integrated			
If 'No' is selected in #69, #70 appears.			
#70	Which tool do you use to post-edit MT output?	Radio button	Text-processing tool MT editor Other (free text)
Integrated TM/MT			
If 'Yes' is selected in #69, questions #71 to #73 are displayed.			
#71	In which tool are the MT output and the TM results integrated?	Radio button	CAT tool MT editor Other (free text)
#72	Do you see the origin of each result?	Radio button	Yes No
#73	Do you have "repaired" segments? (both TM result and MT output mixed to build the fuzzy to be post-edited)	Radio button	Yes No I don't know
If 'Yes' was selected in #26, question #74 is displayed.			
#74	What tool do you use to track the productivity rate?	Checkbox [Bubble note:	Klok Project management program like Plunet, XTRF, Lotus, Everwin, Trello, Dapulse, etc.

		Select a maximum of 2.]	Qualityity Software developed internally TAUS DQF Excel sheet Other
#75	What QA checker do you use?	Checkbox [Bubble note: Select a maximum of 2.]	Antidote Checkmate ContentQuo globalReview Language Tool lexiQA Project Open Translation Quality QA Distiller TQAuditor Verifika Xbench None Other
If 'Yes' is selected in question #28, question #76 appears.			
#76	What controlled authoring tool do you use most often?	Radio button	Acrolinx CLAT Congree CrossAuthor HyperSTE MaxIT MindReader None, only text processing tools Other (free text)

Section 7 - Feelings & Thoughts

#	Question	Question type	Answers
77	Do you think that current PE training courses are adequate for a professional post-editor position?	Radio button [Bubble note: If you are not sure, please explain why in the 'Other' box.]	Yes No Other (free text)
78	Would you like to have access to an online platform that allows you to practice MTPE with real assignments?	Radio button [Bubble note: A sort of "virtual internship". If you are not sure, please explain why in the 'Other' box.]	Yes No Other (free text)
79	Are you aware of the publication or work existent on any of the following standards?	Checkbox [Bubble note: You can select more than one answer.]	ISO 18587:2017 Translation services — Post-editing of machine translation output ASTM WK46396 New Practice for Development of Translation Quality Metrics No

Note: Please enter here any comments that you might have on the questions of this survey: [free text field]

Acknowledgment message: Thank you!

Should you agree to be contacted to discuss some of the questions of this survey, please enter your e-mail below: [e-mail field]

If you only wish to receive a report with the results of this survey, please leave your e-mail below: [e-mail field]

Confirmation message: Thank you for having spent some time filling in this survey. If you wish to correct some answers, you can go back and modify them now. Otherwise, please submit the form with the button below.

c. Questionnaire to trainers

Title: Survey for MTPE training providers

URL: <https://form.jotformeu.com/82844920241354>

Description: This research is carried out within the framework of Clara Ginovart Cid (clara.ginovart@upf.edu). It aims at identifying the skills and competencies that are necessary for professional post-editors of machine translation.

Filling in this questionnaire takes around 10 to 15 minutes.

Content:

Section 1 - Basic Information

#	Question	Question type	Answers
1	Country	Scrolling menu	[The European countries for the menu were drawn from https://europa.eu/european-union/about-eu/countries_en]

MTPE Training

MTPE (machine translation post-editing) is defined as "editing and correcting machine translation output". Machine translation is defined as "automatic translation of text from one natural language to another using a computer application". (Source: ISO 18587-2017)

#	Question	Question type	Answers
2	Is training about machine translation (MT) post-editing (PE) part of your professional activity?	Radio button	Yes No
If 'Yes' is selected in #2, question #2_1 appears.			
2_1	Do you teach MTPE at more than one institution?	Radio button	Yes No
If 'No' is selected in #2_1, question #3 appears.			
3	In which context do you teach MTPE?	Radio button	At University, at a summer course At University, at the Bachelor level At University, at the Postgraduate level In a firm or LSP In a professional organization or association Other (free text)
If 'Yes' is selected in #2_1, question #3_1 appears.			
3_1	In which context do you teach post-editing of MT?	Checkbox	At University, at a summer course At University, at the Bachelor level At University, at the Postgraduate level In a firm or LSP In a professional organization or association Other (free text)

If 'No' is selected in #2_1, question #3_2 appears.			
3_2 ⁴	Please enter below the name of University (or institution) where you teach MTPE:	Free text	
If 'Yes' is selected in #2_1, question #3_3 appears.			
3_3	You teach MTPE in more than one setting. Please write below the name or reference of the PE training course of your choice for the purposes of filling out the present survey:	Free text	

Disqualification questions: If 'No' is selected in question #2, the respondent is prompted to submit the survey and the Thank you message is displayed.

Section 2 - Standards & Certifications

Note: Please remember which PE course or syllabus you have chosen to focus on for the purposes of filling out this survey.

#	Question	Question type	Answers
4	Do you present to your post-editing (PE) students any of the following standards?	Checkbox	ASTM WK54884 ISO 17100 ISO 18587 ISO 27001 ISO 31000 ISO 9001 No Other (free text)
5	Do you present to your PE students any of the following certifications?	Checkbox	SDL Project Manager Certified SDL Translator Certified TAUS Quality Assurance Manager Certified TAUS PE Certified ProZ Certified PRO No Other (free text)

Section 3 - Current trends in MTPE teaching

Subsection 3.1 - Your Profile as a MTPE Trainer

#	Question	Question type	Answers
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⁴ Submissions to questions #3_2 and #3_3 are excluded for purposes of anonymization.

6	If it is not an exclusive PE course, what percentage (%) of the syllabus focuses on PE?	Number	
7	What training support(s) do you use for your MTPE training?	Checkbox	TAUS Post-Editing/Reviewing Course Presentation of slides Readings Hands-on MT training task Hands-on MT output evaluation task Hands-on PE task (light) Hands-on PE task (full) Hands-on PE task (monolingual PE) Hands-on TQA task Other (free text)
8	What 2 methods would you choose as more important to be presented to MTPE students, regarding the evaluation of MT output?	Checkbox (answers are randomized) (max. 2)	Human evaluation by error categorization Human task-based evaluation: edit distance after post-editing Automatic scoring (metrics like BLEU, TER, METEOR, etc.) Machine Translation Quality Estimation (QE) or confidence scores (predictive) Other (free text)

Subsection 3.2 - Content of the MTPE training

#	Question	Question type	Answers
9	Do you discuss what to read first?	Radio button	Yes, I advise to read the source segment in the first place Yes, I advise to read the target segment in the first place No Other (free text)
10	What matters about the feasibility of handling a source text (ST) with MT do you discuss with the students? (MT suitability)	Checkbox [Bubble note: Select the 2 most important factors.]	Content profiling (type of text, repetition rate, visibility, etc.) Current general quality of MT for the pair of languages at hand External factors play a central role: turnaround time & costs A thorough Source Text Analysis (STA) is carried out to evaluate non-translatability indicators Other (free text)
11	How are the source and target text presented to the students?	Radio button	In a tri-column editor: source + MT output + post-edited output In a bi-column editor: source + MT output (where the changes overwrite the MT output) Other (free text)

12	Do you discuss with the students how to apply a rate on MTPE projects?	Checkbox	Price per hour Price per source word (pre-analysis) Price per source word (post-analysis) Price per target word Price per number of source pages Price per number of target pages No, we do not discuss rates Other (free text)
13	Which of the following PE levels do you show to PE students?	Checkbox	Light post-editing or 'good enough quality' Full post-editing or 'human' quality Other (free text)
14	Which of the following relations between the raw MT output and the final quality expected do you explicitly mention at the training?	Checkbox	Improving medium (acceptable) quality raw output to high or publishable quality. Improving poor quality raw output to medium (acceptable) quality. Improving poor quality raw output to high or publishable quality. Other (free text)
15	Do you discuss average post-editing turnaround with your students?	Radio button [Bubble note: 'wph' is words per hour.]	Yes, less than 1000 wph Yes, between 1000 and 3000 wph Yes, between 3000 and 5000 wph Yes, more than 5000 wph No
16	What of the following elements does the MTPE training include?	Checkbox (answers are randomized)	Description of content profiles and text types according to MT systems Integration between CAT tool and MT system MT evaluation: automatic & reference-based (metrics) MT evaluation: human (scoring, ranking, error categorization) MT systems: rule-based, example-based, statistical, hybrid, or neural PE attitude: decide when to discard and translate from scratch PE guidelines: exhaustive list and examples in the relevant language pair PE levels: light and full post-editing Practical PE exercises in the relevant language pair PE risks: under-editing, over-editing & pseudo-editing PE techniques and strategies (shift, replacement, addition, deletion) PE technology: PE tool, ASR, touch-screen, etc. Pre-editing and controlled languages Productivity tracking tools Quality estimation (predictive, without post-edited gold reference)

			Other (free text)
17	Please rate the following MT post-editing skills & competencies according to the importance you think they have for a professional post-editor. 1 = slightly important 5 = very important.	Matrix [Bubble note: Leave a row empty if the skill does NOT seem important.] (rows are randomized)	Column headers: 1 2 3 4 5 Rows: Capacity to decide when to edit or discard (translate from scratch) an MT result Capacity to post-edit according to PE guidelines Capacity to post-edit up to human quality (full PE) Capacity to post-edit to a good enough quality (light PE) Capacity to pre-edit a source text according to CL Capacity to train & tune an MT engine Capacity to identify MT output errors Capacity to apply the right correction strategy Capacity to advise when MTPE is appropriate for a text or project Capacity to provide feedback for the MT solution engineers Capacity to learn about new technologies
18	Which PE risk do you think your PE students fall more easily into?	Radio button	Under-editing (necessary corrections to the MT output are not applied) Over-editing (preferential changes that were not required are applied) Pseudo-editing (errors not present in the MT output are introduced) I don't know

Subsection 3.3 - The MT Post-editing Project

#	Question	Question type	Answers
PE-related tasks			
19	What workload do you think the following PE-related tasks might bear in the everyday work of a professional post-editor?	Matrix [Bubble note: "Choosing N/A or leaving a row empty is the same."] (rows are randomized)	Column headers: Main task Secondary task Occasional task N/A Rows: Customization/Tuning of MT engines Feedback collection on MT output quality for solution engineers Management of MTPE projects: outsourcing, etc. Material preparation for MT engine training (building corpora, alignment, cleaning TM...) MT output quality evaluation (error categorization...) PE guidelines design Post-editing machine translation output Pre-editing the source text Proofreading of post-edited output (monolingual) Quality control & text checking Revision of post-edited MT output (bilingual) Support users with CAT/MT tools Terminology extraction and TB management Tracking PE productivity
Ethics and Professionalism			
20	Do you discuss with your students the implications of using MT without informing the requester of	Radio button	Yes No Other (free text)

	the translation?		
21	Do you discuss with your students the possibility of post-editing MT output of a language in which you they are not native?	Radio button	Yes No Other (free text)
PE Assignment or Brief			
22	Do you present the post-editing assignment or brief to your students as a different one from the translation assignment?	Radio button	Yes No
If 'Yes' is selected in #22, #22_1 is displayed.			
22_1	Which of the following elements do you present to your students as being necessary or interesting in a MTPE assignment or brief?	Checkbox (answers are randomized)	Content profile (type of text, communication channel, STA...) Examples of scenarios indicating when to discard a segment (= translate from scratch) Information on how the MT engine was trained and its most frequent errors Metrics about MT output quality MT system architecture information (hybrid, rule-based, statistical, neural) Name of the machine translation (MT) system PE guidelines: general list of do's and dont's (such as: "fix misspelling errors: YES", "improve the style: NO") PE guidelines: list of examples tailored to the language pair PE level: light or full post-editing Other (free text)
PE Guidelines			
23	Which PE guidelines do you present to your students?	Checkbox	They design them themselves They are designed by our Faculty or institution TAUS post-editing guidelines Only PE level indication (light or full PE) Other (free text)
Feedback for MT improvement			
24	Do you discuss with the students how to prepare feedback for the MT provider (client, LSP, etc.)	Radio button	Yes No Other (free text)
If 'Yes' is selected in #24, #24_1 is displayed.			
24_1	What information do you discuss at the MTPE course as being important for the feedback?	Checkbox	Examples of ST errors that turned into MT errors Examples of recurrent errors: only an informal list of words Examples of recurrent errors (in a structured

			template): source, MT output, and post-edited output General description of how the MT engine performs Type of error: collocation, syntaxis, spelling, punctuation, terminology... Severity of the errors: critical, major, minor, neutral... Other (free text)
Translation Quality Assessment (TQA)			
25	Do you discuss TQA models with your students?	Radio button	Yes No
If 'Yes' is selected in #25, #25_1 and #25_2 appear.			
25_1	Do you relate TQA to any risk management strategy?	Radio button	Yes No
25_2	Which of the following TQA models or tools do you present to MTPE students?	Checkbox [Bubble note: Select a maximum of 2.] (answers are randomized)	ATA (American Translators Association) error categorization ITS 2.0 Localization quality issues LISA QA Metric MQM (Multidimensional Quality Metrics) MTM LinguaSoft QA Model SAE J2450 SDL TMS Classic Model TAUS DQF (offline) TAUS DQF Dashboard (online) TQAuditor globalReview Other (free text)

Section 4 - Translation Technology Tools

#	Question	Question type	Answers
Your Profile as a MTPE Trainer			
26	Do you show the students how to integrate TM results and MT output?	Radio button	Yes, in a CAT tool Yes, in an MT editor No Other (free text)
Unless 'No' is selected in #26, questions #26_1 to #26_4 are displayed.			
26_1	Do you show the students how to see the origin of each result?	Radio button	Yes No
26_2	Do you discuss with the students down until what threshold should TM results take priority over MT output?	Radio button	Yes No

If 'Yes' is selected in #26_2, #26_3 appears.			
26_3	Down until what fuzzy threshold do you prioritize TM results?	Number [Example hint: 75] [Bubble note: Answer if you discuss with the students down until what threshold should TM results take priority over MT output]	
26_4	Do you show the students "repaired" segments? (both TM result and MT output mixed in the same segment to build automatically a fuzzy to be post-edited)	Radio button	Yes No
27	Do you show the students how to use MT engine suggestions? (i.e. predictive writing)	Radio button	Yes No
28	What tool do you present to the students to track the productivity rate?	Checkbox [Bubble note: Select a maximum of 2.]	Excel sheet Klok Project management program like Plunet, XTRF, Lotus, Everwin, Trello, Dapulse, etc. Qualitivity Software developed internally TAUS DQF None, we do not discuss productivity tracking tools Other (free text)
29	What tool do you present to the students to perform QA checks?	Checkbox [Bubble note: Select a maximum of 2.]	Antidote Checkmate ContentQuo Language Tool lexiQA Project Open Translation Quality QA Distiller Verifika Xbench None, we do not discuss Quality Assurance Other (free text)

30	What controlled language or writing assistance tool do you show the students?	Checkbox [Bubble note: This is a multiple answer question].	Acrolinx CLAT Congree CrossAuthor HyperSTE MaxIT MindReader None, only text processing tools None, we do not discuss pre-editing Other (free text)
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Section 5 - Feelings & Thoughts

#	Question	Question type	Answers
31	Do you think that current PE trainings are adequate to the professional post-editor job?	Radio button	Yes No I don't know
32	Would you like to have a third-party platform where your students could practice real MTPE assignments?	Radio button [Bubble note: A sort of "virtual internship" with paid MTPE assignments.]	Yes No Other (free text)

Message: Thank you! You can now click on the button below to submit your survey.

To be informed of the results or if you have any question, please contact the PhD candidate at clara.ginovart@upf.edu.

2. Results of the Submissions

a. Questionnaire to LSCs

Section 1 - Basic Information

Gender	# Respondents	% Respondents
Female	23	34.8%
Male	40	60.6%
Prefer not to say	3	4.5%
Total	66	100%

Table 1 - Gender (LSCs)

Age	# Respondents	% Respondents
20 to 40 years old	29	43.9%
41 to 59 years old	36	54.5%
60 or older	1	1.5%
Total	66	100%

Table 2 - Age of respondent (LSCs)

Highest degree	# Respondents	% Respondents
Bachelor's degree	16	24.2%
Doctorate degree	6	9.1%
Master's degree	42	63.6%
Trade or vocational training	2	3.0%
Total	66	100%

Table 3 - Highest degree completed (LSCs)

Position	# Respondents	% Respondents
Executive Management	20	30.3%
Linguist or paralinguist	9	13.6%
Project Management	23	34.8%
Researcher	3	4.5%
MT Specialist	10	15.2%
N/A	1	1.5%
Total	66	100%

Table 4 - Position held by respondent (LSCs)

Type of company	# Respondents	% Respondents
Firm, company, corporation, or publishing house	8	12.1%
Translation agency or Language Service Provider (LSP)	58	87.9%
Total	66	100%

Table 5 - Type of company

Translation department for non LSCs	# Respondents	% Respondents
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Yes	8	100%
No	0	0%
Total	8	100%

Table 6 - Translation department for respondents from a firm, corporation, or publishing house

Size of company	# Respondents	% Respondents
Between 11 and 50 employees	33	50.0%
Between 51 and 500 employees	13	19.7%
Less than 10 employees	12	18.2%
More than 500 employees	8	12.1%
Total	66	100%

Table 7 - Size of company

Country	# Respondents	% Respondents
Belgium	1	1.5%
Czech Republic	3	4.5%
France	6	9.1%
Germany	5	7.6%
Greece	3	4.5%
Hungary	1	1.5%
Ireland	2	3.0%
Italy	2	3.0%
Netherlands	4	6.1%
Poland	5	7.6%
Portugal	3	4.5%
Romania	2	3.0%
Russia	2	3.0%
Slovenia	2	3.0%
Spain	17	25.8%
Switzerland	2	3.0%
Turkey	1	1.5%
United Kingdom	1	1.5%
Other	4	6.1%
Total	66	100%

Table 8 - Location (LSCs)

Section 2 - MTPE Projects

Use of MTPE	# Respondents	% Respondents
Yes	66	56.9%
No	50	43.1%
Total	116	100%

Table 9 - Respondents relevant to the study (LSCs)⁵

Type of documents for MTPE	# Choices	% Choices
Documents with restricted access (low-visibility content)	35	32.7%
Publicly available documents (high-visibility content)	49	45.8%
Other	23	21.5%
Mean=1.62 ⁶		
Total (66 respondents)	107	100%

Table 10 - Type of document handled with MTPE (LSCs)

Section 3 - Client-TSP Agreement [only visible to LSCs]

Client-TSP agreement	# Respondents	% Respondents
Yes	46	79.3%
No	12	20.7%
Total	58	100%

Table 11 - Agreement with client used

Content of the agreement	# Choices	% Choices
Project specifications: Linguistic compliance requirements (such as style guide, terminology, phraseology, etc.)	32	23.4%
Additional specifications: Corpora used to train MT engines (alignments to tune or customize the MT system)	3	2.2%
Additional specifications: Source texts content profile, pre-editing of the ST...	10	7.3%
Additional specifications: Quality of the MT system for the language pair of the project	6	4.4%
Additional specifications: Type of PE (light or full)	15	10.9%
Additional specifications: Use of technology (MT system)	18	13.1%
Additional specifications: Forbidden use of machine translation	13	9.5%
Additional specifications: Validation of the target content by the client experts or subsidiaries	16	11.7%
Additional specifications: Translation Quality Assessment (TQA) report of the target text	14	10.2%
Other (free text)	10	7.3%
Mean=2.97		
Total (46 respondents)	137	100%

Table 12 - Elements present in client agreement by LSCs

⁵ The tables report solely on the 66 valid submissions filtered in this question.

⁶ When the question accepts more than one answer, the mean is reported considering the free field 'Other'. However, it will exclude the answers 'I do not know' when they appear among the possible answers.

Section 4 - Current Trends in MTPE Projects

Subsection 4.1 - Your MTPE Background

Experience in MTPE (years)	# Respondents	% Respondents
Between 1 and 5 years	36	54.5%
Less than 1 year	9	13.6%
More than 5 years	21	31.8%
Total	66	100%

Table 13 - Years handling MTPE projects (LSCs)

Experience in MTPE (workload)	# Respondents	% Respondents
25% or less	48	72.7%
Between 26% and 50%	14	21.2%
Between 51% and 75%	1	1.5%
More than 76%	3	4.5%
Total	58	100%

Table 14 - Percentage of MTPE projects (LSCs)

Pair	1st pair # resp.	2nd pair # resp.	3rd pair # resp.	Total
EN-ES	14	4	1	19
EN-FR	9	5	2	16
DE-EN	6	3	1	10
EN-DE	6	3	2	11
EN-NL	5	1	1	7
EN-IT	4	2	0	6
EN-PT	4	1	1	6
DE-ES	3	0	0	3
EN-CHS	3	0	2	5
EN-GR	3	0	0	3
EN-PL	3	2	0	5
EN-RU	3	1	0	4
ES-EN	3	7	1	11
DE-FR	2	0	0	2
DE-IT	2	0	0	2
EN-CZ	2	0	1	3
EN-JP	2	0	1	3
EN-SL	2	0	0	2
FR-EN	2	3	1	6
PL-EN	2	0	0	2
DE-CZ	1	1	0	2
DE-NL	1	0	0	1
EN-HU	1	0	0	1

Pair	1st pair # resp.	2nd pair # resp.	3rd pair # resp.	Total
EN-RO	1	0	0	1
EN-TR	1	0	0	1
ES-CA	1	2	1	4
FR-ES	1	0	1	2
FR-IT	1	0	0	1
RU-EN	1	0	0	1
CA-ES	0	0	1	1
DE-HU	0	1	0	1
DE-PL	0	1	0	1
DE-RO	0	1	0	1
DE-SL	0	2	0	2
DE-TR	0	1	0	1
EN-SK	0	1	0	1
ES-DE	0	1	1	2
ES-FR	0	1	0	1
ES-IT	0	1	0	1
ES-PT	0	1	0	1
FR-DE	0	1	2	3
IT-EN	0	1	1	2
IT-FR	0	0	1	1
JP-EN	0	1	0	1
PL-CZ	0	0	1	1
PL-FR	0	0	1	1
PT-EN	0	1	0	1
SL-EN	0	0	1	1
Total	89	50	25	164
Mean=	1.34	0.83	0.37	2.48

Table 15 - Language pairs in MTPE (LSCs)

Decision-maker for MTPE	# Respondents	% Respondents
Our own firm or company	27	40.9%
The client or requester of the translation	37	56.1%
The end-users of the translated content	2	3.0%
Total	66	100%

Table 16 - Stakeholder who most often triggers the use of MTPE (LSCs)

Reception of MT output from customer	# Respondents	% Respondents
No	23	39.7%
Yes, and they do not inform us of the MT system used	12	20.7%
Yes, and they inform us of the MT system used	23	39.7%
Total	58	100%

Table 17 - Origin and knowledge of the MT output (LSCs)

ST as reference	# Respondents	% Respondents
No, the source text is not available (we do monolingual post-editing)	0	0%
Yes, it is bi-column editing: source + MT output	49	74.2%
Yes, it is tri-column editing: source + MT output + post-edited output	17	25.8%
Total	66	100%

Table 18 - ST as reference (LSCs)

Factor considered to decide in favor or against MTPE	# Choices	% Choices
Content profiling (type of text, repetition rate, visibility, etc.)	34	31.2%
Current general quality of MT for the pair of languages at hand	34	31.2%
External factors play a central role: turnaround time & costs	24	22.0%
A thorough Source Text Analysis (STA) is carried out to evaluate non-translatability indicators	7	6.4%
Other: All of the above and/or others	3	2.8%
Other: Client's decision and will to cut the costs	1	0.9%
Other: Customer's decision as most of our customers are other LSPs	1	0.9%
Other: Depends on the language pair + on the topic (if we have a large TM for this topic, from which we could train the MT engine)	1	0.9%
Other: Deadline, language pair, text quality	1	0.9%
Other: Done by the client	1	0.9%
Other: Previous MT test	1	0.9%
Other: Specific test	1	0.9%
Mean=1.65		
Total (66 responses)	109	100%

Table 19 - MT suitability indicators (LSCs)

Preferred MT evaluation method	# Choices	% Choices
Human evaluation by error categorization	36	37.1%
Human task-based evaluation: edit distance after post-editing	36	37.1%
Automatic scoring (metrics like BLEU, TER, METEOR, etc.)	11	11.3%
Machine Translation Quality Estimation (QE) or confidence scores (predictive)	8	8.2%
Other	6	6.2%
Mean=1.47		
Total (66 responses)	97	100%

Table 20 - Top methods to evaluate MT output quality (LSCs)

Use of MT non-disclosed	# Respondents	% Respondents
No	35	60.3%
Yes, post-edited	20	34.5%
Yes	3	5.2%
Total	58	100%

Table 21 - Disclosure of MTPE process to customer (LSCs)

Level of PE	# Respondents	% Respondents
Full post-editing or "human" quality	48	72.7%
Light post-editing or "good enough" quality	14	21.2%
I do not know	4	6.1%
Total	66	100%

Table 22 - PE level (LSCs)

Extent to which TEP process is applied	# Respondents	% Respondents
They undergo a final check	19	28.8%
They undergo both revision and a final check	18	27.3%
They are revised	16	24.2%
They do not undergo any further revision or check	8	12.1%
I do not know	5	7.6%
Total	66	100%

Table 23 - Revision and/or check after PE

Most usual PE scenario	# Respondents	% Respondents
Improving medium (acceptable) quality raw output to high or publishable quality	48	72.7%
Improving poor quality raw output to high or publishable quality.	6	9.1%
Improving poor quality raw output to medium (acceptable) quality	6	9.1%
I do not know	6	9.1%
Total	66	100%

Table 24 - PE scenarios (LSCs)

Track of post-editors' productivity rate	# Respondents	% Respondents
No	22	33.3%
Yes	44	66.7%
Total	66	100%

Table 25 - Tracking of post-editors' productivity rate (LSCs)

Words per hour (expectation)	# Respondents	% Respondents
Less than 1000 wph	35	53.0%
Between 1000 and 3000 wph	29	43.9%
Between 3000 and 5000 wph	2	3.0%
Total	66	100%

Table 26 - Turnaround in wph (LSCs)

Use of CL to pre-edit the ST	# Respondents	% Respondents
No	63	95.5%
Yes	3	4.5%
Total	66	100%

Table 27 - Pre-editing or use of CL (LSCs)

Subsection 4.2 - The Machine Translation Post-Editor Profile

In-house post-editors	# Respondents	% Respondents
1 - 15	34	51.5%
15 -30	1	1.5%
30 or more	3	4.5%
None, we outsource MTPE projects	28	42.4%
Total	66	100%

Table 28 - Size of in-house pool of post-editors

Freelance post-editors	# Respondents	% Respondents
1 - 15	20	30.3%
15 -30	12	18.2%
30 or more	24	36.4%
None, we post-edit internally	10	15.2%
Total	66	100%

Table 29 - Size of freelance pool of post-editors

In-house post-editors' time allocation	# Respondents	% Respondents
No, they also translate or do translation project management	25	65.8%
No, they have a long list of other tasks	12	31.6%
Yes, they work full-time on post-editing of MT	1	2.6%
Total	38	100%

Table 30 - Dedication to PE for in-house post-editors

Name of task for in-house	Main task	Secondary task	Occasional task	Total
Customization/Tuning of MT engines	2	4	10	16
Feedback collection on MT output quality for solution engineers	1	12	9	22
Management of MTPE projects: outsourcing, etc.	5	4	8	17
Material preparation for MT engine training (building corpora, alignment, cleaning TM...)	1	3	12	16
MT output quality evaluation (error categorization...)	3	14	11	28
PE guidelines design	2	5	14	21
Post-editing machine translation output	24	4	3	31
Pre-editing the source text	1	5	5	11
Proofreading of post-edited output (monolingual)	9	8	5	22
Quality control & text checking	20	7	6	33
Revision of post-edited MT output (bilingual)	15	8	6	29
Support users with CAT/MT tools	3	9	4	16
Terminology extraction and TB management	3	8	11	22
Tracking PE productivity	4	6	9	19
Mean=	2.45	2.55	2.97	7.97
Total (38 responses)	93	97	113	303

Table 31 - Workload distribution of tasks (LSCs - in-house post-editors)

Name of task for freelance	Main task	Secondary task	Occasional task	Total
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Customization/Tuning of MT engines	0	4	4	8
Feedback collection on MT output quality for solution engineers	3	10	7	20
Management of MTPE projects: outsourcing, etc.	1	1	2	4
Material preparation for MT engine training (building corpora, alignment, cleaning TM...)	2	2	6	10
MT output quality evaluation (error categorization...)	6	12	13	31
PE guidelines design	1	2	6	9
Post-editing machine translation output	40	3	1	44
Pre-editing the source text	1	3	4	8
Proofreading of post-edited output (monolingual)	8	12	9	29
Quality control & text checking	16	14	5	35
Revision of post-edited MT output (bilingual)	28	8	5	41
Support users with CAT/MT tools	1	3	3	7
Terminology extraction and TB management	2	10	6	18
Tracking PE productivity	2	4	7	13
Mean=	1.98	1.57	1.39	4.95
Total (56 responses)	111	88	78	277

Table 32 - Workload distribution of tasks (LSCs - freelance post-editors)

Name of task (both)	Main task	Secondary task	Occasional task	Total
Customization/Tuning of MT engines	2	8	14	24
Feedback collection on MT output quality for solution engineers	4	22	16	42
Management of MTPE projects: outsourcing, etc.	6	5	10	21
Material preparation for MT engine training (building corpora, alignment, cleaning TM...)	3	5	18	26
MT output quality evaluation (error categorization...)	9	26	24	59
PE guidelines design	3	7	20	30
Post-editing machine translation output	64	7	4	75
Pre-editing the source text	2	8	9	19
Proofreading of post-edited output (monolingual)	17	20	14	51
Quality control & text checking	36	21	11	68
Revision of post-edited MT output (bilingual)	43	16	11	70
Support users with CAT/MT tools	4	12	7	23
Terminology extraction and TB management	5	18	17	40
Tracking PE productivity	6	10	16	32
Mean=	2.17	1.97	2.03	6.17
Total (94 responses)	204	185	191	580

Table 33 - Workload distribution of tasks (LSCs)

Usual payment method for MTPE	# Respondents	% Respondents
Source word rate (pre-analysis)	39	69.6%

Hour rate (time spent is established by the freelance post-editor)	9	16.1%
Editing distance (post-analysis)	2	3.6%
Hour rate (time spent is recorded by a programme)	2	3.6%
Target word rate	2	3.6%
Target page rate	1	1.8%
Other: Edit distance & hourly rate	1	1.8%
Total	56	100%

Table 34 - Payment method (LSCs)

Post-editor profile most valued	# Respondents	% Respondents
A professional with a stronger "expert" profile (with knowledge in languages)	25	37.9%
A professional with a stronger linguist profile (with some subject field knowledge)	41	62.1%
Total	66	100%

Table 35 - Expert or linguist profile preferred by industry

Criterion	Mandatory	Very important	Important	Not important
Capacity to post-edit into both directions	4	5	12	45
CAT tool(s) knowledge	31	14	15	6
Certification in PE by a professional association (ProZ, TAUS, etc.)	0	7	19	40
Experience in project management	4	6	9	47
MT system knowledge	5	17	21	23
Pre-editing or controlled language (CL) skills	4	6	10	46
Previous experience in post-editing MT output	9	21	28	8
Productivity (processing speed)	13	24	17	12
Quality assurance (QA) checking skills	13	23	19	11
Revision & proofreading skills	31	25	8	2
Skills using automatic speech recognition (ASR) or touch-screen technology	0	2	9	55
Specific locale (variant, sublanguage)	11	12	16	27
Subject field knowledge or specialization	25	30	9	2
Technical skills: macros, xliif, tmx, Java, RegEx...	3	4	21	38
Terminology management & information mining skills	7	18	19	22
Translation Quality Assessment (TQA) skills (scores, metrics, evaluation, etc.)	5	16	20	25
University degree in Translation or related studies	20	13	19	14
Mean	2.8	3.7	4.1	6.4
Total (66 responses)	185	243	271	423

Table 36 - Criteria considered when hiring a post-editor (LSCs)

Skill	1= slightly important	2	3	4	5=very important	Total
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Capacity to decide when to edit or discard (translate from scratch) an MT result	2	0	9	15	45	65
Capacity to post-edit according to PE guidelines	3	1	3	12	47	66
Capacity to post-edit up to human quality (full PE)	0	0	2	6	57	65
Capacity to post-edit to a good enough quality (light PE)	4	2	7	12	40	65
Capacity to pre-edit a source text according to CL	31	10	10	9	3	63
Capacity to train & tune an MT engine	31	10	16	7	0	64
Capacity to identify MT output errors	1	1	8	12	43	65
Capacity to apply the right correction strategy	3	0	8	20	32	63
Capacity to advise when MTPE is appropriate for a text or project	7	5	20	9	22	63
Capacity to provide feedback for the MT solution engineers	6	13	14	18	13	64
Capacity to learn about new technologies	2	7	27	16	12	64
Mean	1.36	0.74	1.78	2.06	4.75	10.71
Total (66 responses)	90	49	118	136	314	707

Table 37 - PE skills (LSCs)

Type of mistake	# Respondents	% Respondents
They are under-edited (necessary corrections to the MT output are not applied)	28	42.4%
It does not happen; our post-edited texts are always fit for purpose	13	19.7%
They are over-edited (preferential changes that were not required are applied)	13	19.7%
I do not know	5	7.6%
They are pseudo-edited (the post-editor introduces errors that were not present in the MT output)	1	1.5%
Other (Not follow client guidelines, combination of the three, combination of over- and under-, etc.)	6	9.1%
Total	66	100%

Table 38 - Types of PE risks (LSCs)

Recruitment test for post-editors	# Respondents	% Respondents
Yes	22	33.3%
No	44	66.7%
Total	66	100%

Table 39 - Specific recruitment test (LSCs)

Subsection 4.3 - The MT Post-editing project

Specific MTPE brief	# Respondents	% Respondents
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Yes, we give detailed information: MT system used, how it was trained, metrics and scores of its quality, PE guidelines, among other items	6	9.1%
Yes, we might provide some information: explanation of the workflow or PE guidelines	43	65.2%
No	17	25.8%
Total	66	100%

Table 40 - Specific brief for MTPE projects (LCSs)

Content in the MTPE brief	# Choices	% Choices
PE guidelines: general list of do's and don'ts (such as: "fix misspelling errors: YES", "improve the style: NO")	40	19.8%
PE level: light or full post-editing	38	18.8%
Content profile (type of text, communication channel, STA...)	31	15.3%
PE guidelines: list of examples tailored to the language pair	28	13.9%
Examples of scenarios indicating when to discard a segment (= translate from scratch)	21	10.4%
Name of the machine translation (MT) system	15	7.4%
MT system architecture information (hybrid, rule-based, statistical, neural)	11	5.4%
Metrics about MT output quality	10	5.0%
Information on how the MT engine was trained and its most frequent errors	7	3.5%
Other	1	0.5%
Mean=4.12		
Total (49 submissions)	202	100%

Table 41 - Elements present in the MTPE brief (LCSs)

PE Guidelines	# Respondents	% Respondents
Internally customized and fixed for the whole firm or company	10	20.4%
Internally customized and tailored to content type or language	29	59.2%
Only PE level indication (light or full post-editing)	5	10.2%
TAUS post-editing guidelines	1	2.0%
Other	4	8.2%
Total (49 submissions)	49	100%

Table 42 - Type of PE guidelines (LCSs)

Feedback asked to the post-editor	# Respondents	% Respondents
Yes	48	72.7%
No	18	27.3%
Total	66	100%

Table 43 - Feedback requested to post-editors (LCSs)

Feedback elements received from the post-editor	# Choices	% Choices
Type of error: collocation, syntax, grammar, spelling, punctuation, terminology...	29	20.4%

Examples of recurrent errors (in a structured template): source, MT output, and post-edited output	27	19.0%
Severity of the errors: critical, major, minor, neutral...	26	18.3%
General description of how the MT engine performs	26	18.3%
Examples of recurrent errors: only an informal list of words	20	14.1%
Examples of ST errors that turned into MT errors	13	9.2%
Other	1	0.7%
Mean=2.97		
Total (48 responses)	142	100%

Table 44 - Elements present in the PE Feedback (LSCs)

TQA	# Respondents	% Respondents
No	35	53.0%
Yes, one integrated in the CAT tool	19	28.8%
Yes, one not integrated in the CAT tool	11	16.7%
Other	1	1.5%
Total	66	100%

Table 45 - Translation Quality Assessment (LSCs)

TQA linked to risk management	# Respondents	% Respondents
No	12	38.7%
Yes	9	29.0%
I do not know	10	32.3%
Total	31	100%

Table 46 - TQA linked to risk management in MTPE projects (LSCs)

TQA model or tool	# Choices	% Choices
ATA (American Translators Association) error categorization	1	2.5%
ITS 2.0 Localization quality issues	1	2.5%
LISA QA Metric	6	15.0%
MQM (Multidimensional Quality Metrics)	7	17.5%
SAE J2450	2	5.0%
SDL TMS Classic Model	7	17.5%
TAUS DQF (offline)	4	10.0%
TAUS DQF Dashboard (online)	1	2.5%
Other	11	27.5%
Mean=1.29		
Total (31 respondents)	40	100%

Table 47 - TQA models & tools used in MTPE projects (LSCs)

Section 5 - Training in Machine Translation Post-editing

Offer MTPE training	# Respondents	% Respondents
Training on MTPE is organized regularly	9	13.6%
We have organized at least one	13	19.7%
We have not organized one as of yet	44	66.7%
Total	66	100%

Table 48 - Offering of MTPE training within the industry

Type of attendees to MTPE training	# Respondents	% Respondents
Both in-house and freelance linguists	18	81.8%
Freelance linguists	2	9.1%
In-house linguists	2	9.1%
Total	22	100%

Table 49 - Type of audience to MTPE training sessions provided by the industry

Adaptation of training according to audience	# Respondents	% Respondents
No	12	66.7%
Yes ⁷	6	33.3%
Total	18	100%

Table 50 - Adjustment of the form or content of training according to attendees

Trainer in MTPE course ⁸	# Respondents	% Respondents
In-house staff	18	81.8%
TAUS Post-editing/Reviewing Course	1	4.5%
Other	3	13.6%
Total	22	100%

Table 51 - Trainer of MTPE course by LSCs

Mode of MTPE course	# Respondents	% Respondents
Online (recorded)	1	5.6%
Online (videoconference)	13	72.2%
Presential	3	16.7%
Other	1	5.6%
Total (12 responses)	18	100%

Table 52 - Mode of training by LSCs who do not alter the form or content of the training according to the audience

Knowledge about the content of the in-house MTPE course	# Respondents	% Respondents
Yes	17	94.4%
No	1	5.6%
Total (18 responses)	18	100%

Table 53 - Knowledge by respondent of the specific content in the MTPE training course

Training elements in the in-house MTPE course provided by the LSC	# Choices	% Choices
Description of content profiles and text types according to MT systems	5	3.5%
Integration between the CAT tool and MT system	11	7.7%
MT evaluation: automatic & reference-based (metrics)	9	6.3%
MT evaluation: human (scoring, ranking, error categorization)	10	7.0%

⁷ In fact, of the 6 who answered affirmatively only one has a presential course for in-house attendees and an online videoconference for freelance attendees, the other 5 respondents make no adaptation at all. Hence, all the answers are put together in table 51.

⁸ No variation depending on freelance or in-house attendees is observed regarding the training provider, the submissions are therefore reported in a single table.

MT systems: rule-based, example-based, statistical, hybrid, or neural	13	9.1%
PE attitude: decide when to discard and translate from scratch	14	9.8%
PE guidelines: exhaustive list and examples in the relevant language pair	14	9.8%
PE levels: light and full post-editing	17	11.9%
Practical PE exercises in the relevant language pair	12	8.4%
PE risks: under-editing, over-editing & pseudo-editing	11	7.7%
PE techniques and strategies (shift, replacement, addition, deletion)	3	2.1%
PE technology: PE tool, ASR, touchscreen, etc.	10	7.0%
Pre-editing and controlled languages	4	2.8%
Productivity tracking tools	5	3.5%
Quality estimation or confidence scores (predictive, without post-edited gold reference)	5	3.5%
Other	0	0.0%
Mean=7.94		
Total (18 responses)	143	100%

Table 54 - Training elements (LSCs)

Section 6 - Technology & Tools

MT system architecture	# Choices	% Choices
Neural	40	47.1%
Statistical	21	24.7%
Rule-based	6	7.1%
Other	6	7.1%
Subtotal (54 respondents)	73	85.9%
Mean=1.35		
I do not know	12	14.1%
Total (66 respondents)	85	100%

Table 55 - MT systems' architectures used (LSCs)

MT engine	1st most used # resp.	2nd most used # resp.	# Total	% Total
Amazon Translate	3	0	3	2.9%
Bing Microsoft Translator	3	0	3	2.9%
DeepL Translator	10	6	16	15.5%
Google Translate	13	13	26	25.2%
Hub (Microsoft Translator for Business)	6	2	8	7.8%
KantanMT	2	0	2	1.9%
ModernMT	0	1	1	1.0%
Moses	3	0	3	2.9%
Omniscien Technologies	1	2	3	2.9%
PROMT	0	1	1	1.0%
SDL: AdaptiveMT, LanguageCloud, ETS	5	3	8	7.8%
Slate Desktop	1	0	1	1.0%
Systran	3	2	5	4.9%

Yandex.Translate	1	0	1	1.0%
One developed by my company	5	1	6	5.8%
Other	10	6	16	15.5%
Mean	1	0.56	1.15	
Total	66	37	103	100%

Table 56 - 1st and 2nd most used MT providers (LSCs)

MT trained with linguistic databases	# Respondents	% Respondents
Yes	48	72.7%
No	15	22.7%
I do not know	3	4.5%
Total	66	100%

Table 57 - MT system training with own linguistic data (LSCs)

MT integrated with TM in tools other than CAT	# Respondents	% Respondents
Yes, within localization software	20	30.3%
Yes, within subtitling software	0	0.0%
Yes, both within localization and subtitling software	2	3.0%
No	44	66.7%
Other	0	0.0%
Total	66	100%

Table 58 - MT engine integrated with TM in tools other than CAT environments (LSCs)

MT / TM combined in the editor	# Respondents	% Respondents
Yes	61	93.0%
No	5	7.0%
Total	66	100%

Table 59 - Combination of TM results with MT suggestions in editor (LSCs)

Editing environment for MTPE (TM/MT not combined)	# Respondents	% Respondents
Text processing tool	3	60.0%
MT editor	1	20.0%
Other	1	20.0%
Total	5	100%

Table 60 - MTPE tool used when not integrating TM/MT (LSCs)

Editing environment for MTPE (TM/MT combined)	# Respondents	% Respondents
CAT tool	55	90.2%
MT editor	5	8.2%
I do not know	1	1.6%
Total	61	100%

Table 61 - MTPE tool used when integrating TM/MT (LSCs)

CAT Tool	1st most used # resp.	2nd most used # resp.	# Total	% Total
Across	4	2	6	5.7%

DéjàVu	0	1	1	1.0%
GlobalSight	1	0	1	1.0%
Localize	1	0	1	1.0%
MateCat	1	1	2	1.9%
memoQ	10	8	18	17.1%
Memsource	8	3	11	10.5%
SDL Passolo	0	1	1	1.0%
SDL Trados Studio	31	17	48	45.7%
Smartcat	1	2	3	2.9%
Transifex	1	0	1	1.0%
Wordfast	2	2	4	3.8%
One developed by my company	6	2	8	7.6%
Mean=	1	0.59	1.59	
Total (66 responses)	66	39	105	100%

Table 62 - CAT tools most used for PE (LSCs)

Origin indicated	# Respondents	% Respondents
Yes	51	83.6%
No	5	8.2%
I do not know	5	8.2%
Total	61	100%

Table 63 - Visibility of TM or MT origin per segment (LSCs)

Repaired segments	# Respondents	% Respondents
Yes	17	27.9%
No	33	54.1%
I do not know	11	18.0%
Total	61	100%

Table 64 - "Patchwork" suggestions where the CAT tool mixes MT and TM (LSCs)

Tool to track productivity in MTPE	# Choices	% Choices
Excel sheet	10	21.3%
Klok	1	2.1%
Project management programs like Plunet, XTRF, Lotus, Everwin, Trello, Dapulse, etc.	10	21.3%
Qualitivity	3	6.4%
TAUS DQF	2	4.3%
Software developed internally	12	25.5%
Other	2	4.3%
Subtotal	40	85.1%
Mean=1		
None	7	14.9%
Total (44 responses)	47	100%

Table 65 - Tracking tools used to obtain PE productivity rates (LSCs)

QA tool	# Choices	% Choices
Antidote	3	3.7%
ContentQuo	1	1.2%
lexiQA	1	1.2%
Project Open Translation Quality	1	1.2%
QA Distiller	5	6.1%
Verifika	7	8.5%
Xbench	33	40.2%
Other	9	11.0%
Subtotal	57	73.2%
Mean=1.36		
I don't know	4	4.9%
None	18	22.0%
Total	82	100%

Table 66 - QA tools used for PE (LSCs)

CA tools used by LSCs	# Choices
Acrolinx	1
Other	1
None, only text processing tools	1
Total	3

Table 67 - Controlled authoring tools (LSCs)

Section 7 - Feelings & Thoughts

Adequateness of current MTPE courses	# Respondents	% Respondents
Yes	23	34.8%
No	25	37.9%
Other (I do not know)	16	24.2%
Other (They need to be continuously improved or adapted)	2	3.0%
Total	66	100%

Table 68 - Opinion on adequateness of current MTPE training courses (LSCs)

Access to PE internship platform	# Respondents	% Respondents
No	20	30.3%
Yes	42	63.6%
Maybe	3	4.5%
N/A	1	1.5%
Total	66	100%

Table 69 - Willingness to access a virtual MTPE internship platform (LSCs)

Awareness of existing work or publication of standards	# Respondents	% Respondents
ASTM WK46396 New Practice for Development of Translation Quality Metrics	11	14.3%
ISO 18587:2017 Translation services — Post-editing of machine translation output	35	45.5%

No	31	40.3%
Mean=1.16		
Total	77	100%

Table 70 - Industry standards (LSCs)

b. Questionnaire to linguists

Section 1 - Basic Information

Gender	# Respondents	% Respondents
Female	92	64.8%
Male	50	35.2%
Prefer not to say	0	0.0%
Total	142	100%

Table 71 - Gender (linguists)

Age	# Respondents	% Respondents
20 to 40 years old	73	51.4%
41 to 59 years old	56	39.4%
60 or older	13	9.2%
Total	142	100%

Table 72 - Age of respondent (linguists)

Highest degree	# Respondents	% Respondents
Bachelor's degree	30	21.1%
Doctorate degree	93	65.5%
Master's degree	14	9.9%
Trade or vocational training	2	1.4%
Total	142	100%

Table 73 - Highest degree completed (linguists)

Country	# Respondents	% Respondents
Austria	6	4.2%
Belgium	3	2.1%
Croatia	1	0.7%
Czech Republic	2	1.4%
Denmark	1	0.7%
Finland	1	0.7%
France	11	7.7%
Germany	11	7.7%
Greece	3	2.1%
Iceland	1	0.7%
Italy	18	12.7%
Latvia	5	3.5%
Lithuania	1	0.7%

Luxembourg	1	0.7%
Malta	1	0.7%
Netherlands	4	2.8%
Norway	1	0.7%
Other	20	14.1%
Poland	3	2.1%
Portugal	1	0.7%
Spain	21	14.8%
Sweden	3	2.1%
Switzerland	5	3.5%
Turkey	1	0.7%
Ukraine	2	1.4%
United Kingdom	15	10.6%
Total	142	100%

Table 74 - Location (linguists)

Bilingual	# Respondents	% Respondents
Yes	61	43.0%
No	77	54.2%
N/A	4	2.8%
Total	142	100%

Table 75 - Respondents who consider themselves bilingual

Mother tongue	# Respondents	% Respondents
Catalan	4	2.8%
Croatian	1	0.7%
Cypriot Arabic	1	0.7%
Czech	1	0.7%
Danish	2	1.4%
Dutch	7	4.9%
English	23	16.2%
Finnish	1	0.7%
French	15	10.6%
German	13	9.2%
Greek	3	2.1%
Italian	22	15.5%
Latvian	5	3.5%
Lithuanian	1	0.7%
Norwegian	1	0.7%
Other	4	2.8%
Polish	4	2.8%
Portuguese	2	1.4%
Romanian	1	0.7%

Russian	3	2.1%
Serbian	1	0.7%
Spanish	24	16.9%
Swedish	3	2.1%
Total	142	100%

Table 76- Post-editors' mother tongue

2nd language for bilinguals	# Respondents	% Respondents
Catalan	1	1.6%
Dutch	1	1.6%
English	30	49.2%
French	5	8.2%
German	6	9.8%
Italian	2	3.3%
Other	2	3.3%
Portuguese	2	3.3%
Romanian	1	1.6%
Russian	1	1.6%
Spanish	9	14.8%
Swedish	1	1.6%
Total	61	100%

Table 77 - Bilingual post-editors' second language

Section 2 - MTPE (machine translation post-editing) Projects

Worked professionally in a PE project	# Respondents	% Respondents
Yes	142	78.5%
No	39	21.5%
Total	181	100%

Table 78 - Respondents relevant to the study (linguists)⁹

Translation profession	# Respondents	% Respondents
Yes	114	80.3%
No	28	19.7%
Total	142	100%

Table 79 - Respondents who have the translation as main source of income

Translator status type	# Respondents	% Respondents
Freelance or independent	96	84.2%
In-house, in an LSP (language service provider)	10	8.8%
In-house, in a firm or corporation	6	5.3%
Other: both	2	1.8%

⁹ The tables report solely on the 142 valid submissions filtered in this question.

Total	114	100%
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Table 80 - Professional translators' status of the respondents to the post-editors' questionnaire

Job title	# Respondents	% Respondents
CAT Tools Consultant	0	0.0%
Country Manager	1	2.2%
Linguistic Communication Officer	0	0.0%
Multilingual Coordinator	0	0.0%
Post-editor	1	2.2%
Reviewer	1	2.2%
Translator	31	67.4%
Other (Language Teacher, lecturer, Senior Language Lead, Nurse, MT expert, Linguistic and Cultural Consultant, Life Science Linguist, Language Specialist, Internationalization Manager, Communications Coordinator)	12	26.1%
Total	46	100%

Table 81 - Position held by respondent (linguists)¹⁰

Section 3 - Certifications

Certification	# Choices	% Choices
ProZ Certified PRO	18	11.9%
SDL Project Manager Certified	1	0.7%
SDL Translator Certified	15	9.9%
TAUS Quality Assurance Manager Certified	0	0.0%
TAUS Post-Editing Certified	3	2.0%
Other: ATA Certified	3	2.0%
Other: SDL Post-Editing Certified	3	2.0%
Other: DipTrans CloL, ECQA Certified Terminology Manager, certified ProMT MT dictionary expert, TransPerfect MTPE certification	5	3.3%
Subtotal	48	31.8%
Mean=1.23		
I have no extra certification so far	103	68.2%
Total (142 responses)	151	100%

Table 82 - Certifications (linguists)

Section 4 - Current Trends in MTPE Projects

Subsection 4.1 - Your MTPE Background

Experience (in years)	# Respondents	% Respondents
Less than 1 year	34	23.9%
Between 1 and 5 years	84	59.2%
More than 5 years	24	16.9%

¹⁰ For the ones who are not freelance.

Total	142	100%
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Table 83 - Years handling MTPE projects (linguists)

Experience (in percentage versus TEP)	# Respondents	% Respondents
25% or less	88	62.0%
Between 26% and 50%	26	18.3%
Between 51% and 75%	18	12.7%
More than 76%	10	7.0%
Total	142	100%

Table 84 - Percentage of MTPE projects (linguists)

Typology of documents for MTPE	# Choices	% Choices
Publicly available documents (high-visibility content)	100	56.2%
Documents with restricted access (low-visibility content)	67	37.6%
Other (it varies)	11	6.2%
Mean=1.25		
Total (142 responses)	178	100%

Table 85 - Type of document handled with MTPE (linguists)

Pair	1st pair	2nd pair	3rd pair	Total
EN-ES	24	4	1	29
EN-FR	14	3	2	19
EN-IT	15	2	1	18
EN-DE	12	4	0	16
FR-EN	7	4	1	12
FR-IT	3	6	1	10
IT-EN	4	2	3	9
FR-ES	3	4	1	8
ES-EN	5	1	1	7
EN-RU	4	1	2	7
EN-NL	6	0	0	6
DE-IT	4	1	1	6
EN-PT	3	1	0	4
FR-DE	1	1	2	4
PT-EN	1	2	1	4
EN-GR	3	0	0	3
EN-HI	3	0	0	3
EN-PL	3	0	0	3
EN-SW	3	0	0	3
EN-LV	2	1	0	3
DE-EN	2	0	1	3
ES-CA	1	1	1	3

Pair	1st pair	2nd pair	3rd pair	Total
EN-CZ	2	0	0	2
LV-EN	2	0	0	2
NL-EN	1	1	0	2
FI-EN	1	1	0	2
DE-FR	1	1	0	2
DE-PL	1	1	0	2
DE-ES	1	1	0	2
IT-DE	1	0	1	2
SW-EN	1	1	0	2
EN-TH	1	0	1	2
DE-NL	0	2	0	2
PT-ES	0	1	1	2
ES-DE	0	1	1	2
FR-NL	0	0	2	2
EN-AR	1	0	0	1
EN-CR	1	0	0	1
EN-DA	1	0	0	1
EN-LT	1	0	0	1
EN-NO	1	0	0	1
EN-RO	1	0	0	1
CZ-LV	1	0	0	1
DA-EN	1	0	0	1
NL-DE	1	0	0	1
ID-EN	1	0	0	1
CHS-EN	1	0	0	1
NO-DE	1	0	0	1
EN-ID	1	0	0	1
EN-JP	1	0	0	1
EN-TR	1	0	0	1
EN-CA	0	1	0	1
CA-ES	0	1	0	1
CZ-EN	0	1	0	1
FR-GR	0	1	0	1
DE-CZ	0	1	0	1
DE-LV	0	1	0	1
IT-FR	0	1	0	1
LV-CZ	0	1	0	1
LV-DE	0	1	0	1
PT-DE	0	1	0	1
RU-EN	0	1	0	1

Pair	1st pair	2nd pair	3rd pair	Total
ES-AR	0	1	0	1
ES-EU	0	1	0	1
ES-GL	0	0	1	1
FR-CZ	0	0	1	1
FR-RO	0	0	1	1
IT-ES	0	0	1	1
JP-EN	0	0	1	1
RU-BE	0	0	1	1
RU-UK	0	0	1	1
SK-LV	0	0	1	1
ES-CZ	0	0	1	1
ES-IT	0	0	1	1
ES-PT	0	0	1	1
Total	150	61	36	247
Mean=	1.05	0.42	0.25	1.73

Table 86 - Language pairs in MTPE (linguists)

Order for reading in PE	# Respondents	% Respondents
I read the source segment first	78	54.9%
I read the target segment first	55	38.7%
I don't know	9	6.3%
Other	0	0.0%
Total	142	100%

Table 87 - Reading ST or TT first (linguists)

Client typology	# Respondents	% Respondents
Most of the work I do is for LSP	75	78.1%
Most of the work I do is for particular clients	19	19.8%
It is actually half and half	1	1.0%
I don't know	1	1.0%
Total	96	100%

Table 88 - Most usual MTPE clients (linguists)

Triggering agent	# Respondents	% Respondents
Myself	25	17.6%
The client or requester of the translation	107	75.4%
The end-users of the translation	7	4.9%
Other	3	2.1%
Total	142	100%

Table 89 - Stakeholder who most often triggers the use of MTPE (linguists)

MT output received with ST	# Respondents	% Respondents
Yes, and they inform me of the MT system used	46	32.4%

Yes, and they do not inform me of the MT system used	60	42.3%
No	36	25.4%
Total	142	100%

Table 90 - Origin and knowledge of the MT output (linguists)

Mode of PE: mono- bi- or tri-column	# Respondents	% Respondents
No, the ST is not available in general (I do monolingual post-editing)	8	5.6%
Yes, it is a bilingual editor: source + MT output	122	85.9%
Yes, it is a trilingual editor: source + MT output + post-edited output	11	7.7%
Other (N/A)	1	0.7%
Total	142	100%

Table 91 - ST as reference (linguists)

Freelance post-editors' rating method	# Respondents	% Respondents
Source word rate (pre-analysis)	55	57.3%
Hour rate	24	25.0%
Editing distance (post-analysis)	2	2.1%
Hour rate (and time spent is recorded by a software)	5	5.2%
Target word rate	7	7.3%
Source page rate	1	1.0%
Target page rate	1	1.0%
Other (N/A)	1	1.0%
Total	96	100%

Table 92 - Payment method (linguists)

Level of PE most recurrent	# Respondents	% Respondents
Full post-editing or "human" quality	94	66.2%
Light post-editing or "good enough" quality	39	27.5%
I don't know	9	6.3%
Total	142	100%

Table 93 - PE level (linguists)

PE scenarios from the quality perspective	# Respondents	% Respondents
Improving medium (acceptable) quality raw output to high or publishable quality	60	42.3%
Improving poor quality raw output to high or publishable quality	42	29.6%
Improving poor quality raw output to medium (acceptable) quality	35	24.6%
Other	5	3.5%
Total	142	100%

Table 94 - PE scenarios (linguists)

Words per hour (usual)	# Respondents	% Respondents
Less than 1000 wph	61	43.0%
Between 1000 and 3000 wph	71	50.0%

Between 3000 and 5000 wph	8	5.6%
More than 5000 wph	2	1.4%
Total	142	100%

Table 95 - Turnaround in wph (linguists)

Tracking productivity	# Respondents	% Respondents
Yes	64	45.0%
No	78	55.0%
Total	142	100%

Table 96 - Post-editors' questionnaire respondents' tracking of their own productivity

Evaluation of MT output quality	# Choices	% Choices
Human evaluation by error categorization	65	43.9%
Human task-based evaluation: edit distance after post-editing	51	34.5%
Automatic scoring (metrics like BLEU, TER, METEOR, etc.)	6	4.1%
Machine Translation Quality Estimation (QE) or confidence scores (predictive)	14	9.5%
Other (I skim the text)	6	4.1%
Other (I don't know)	6	4.1%
Mean=1.04		
Total (142 respondents)	148	100%

Table 97 - Top methods to evaluate MT output quality (linguists)

Pre-editing of ST	# Respondents	% Respondents
No	136	95.8%
Yes	6	4.2%
Total	142	100%

Table 98 - Pre-editing or use of CL (linguists)

Developer of the CL	# Respondents
The firm, company, LSP or client I work for	3
A third party	1
Other	1
Total	5

Table 99 - Developer of the CL (linguists)

Language in which a CL is used	# Respondents
English	5
Dutch	1
Total	6

Table 100 - Language for the CL (linguists)

CA tools used by post-editors	# Choices
HyperSTE	1
Other	1
None, only text processing tools	4
Total	6

Table 101 - Controlled authoring tools (linguists)

Involved in MTPE approach decision process	# Respondents	% Respondents
No	117	82.4%
Yes	25	17.6%
Total	142	100%

Table 102 - Post-editors' questionnaire respondents are or not involved in MTPE decision-making

Decisive factor for ST apt for MT	# Choices	% Choices
Content profiling (type of text, repetition rate, visibility, etc.)	15	40.5%
Current general quality of MT for the pair of languages at hand	9	24.3%
External factors play a central role: turnaround time & costs	9	24.3%
A thorough Source Text Analysis (STA) is carried out to evaluate non-translatability indicators	1	2.7%
Other	3	8.1%
Mean=1.48		
Total (25 responses)	37	100%

Table 103 - MT suitability indicators (linguists)

Subsection 4.2 - The Machine Translation Post-Editor Profile

Use of MT without informing the requester	# Respondents	% Respondents
No	90	63.4%
Yes	42	29.6%
I prefer not to answer	10	7.0%
Total	142	100%

Table 104 - Disclosure of MTPE process to customer (linguists)

PE into non-native language	# Respondents	% Respondents
No	105	73.9%
Yes	35	24.6%
I prefer not to answer	2	1.4%
Total	142	100%

Table 105 - PE into non-native language (linguists)

Name of task	Main	Secondary	Occasional	Total
Customization/Tuning of MT engines	4	9	21	34

Feedback collection on MT output quality for solution engineers	2	18	21	41
Management of MTPE projects: outsourcing, etc.	7	13	26	46
Material preparation for MT engine training (building corpora, alignment, cleaning TM...)	4	12	26	42
MT output quality evaluation (error categorization...)	13	26	35	74
PE guidelines design	7	10	23	40
Post-editing machine translation output	93	25	17	135
Pre-editing the source text	12	12	27	51
Proofreading of post-edited output (monolingual)	28	38	29	95
Quality control & text checking	45	46	20	111
Revision of post-edited MT output (bilingual)	59	37	20	116
Support users with CAT/MT tools	11	9	23	43
Terminology extraction and TB management	10	20	31	61
Tracking PE productivity	7	15	34	56
Mean=	2.13	2.04	2.49	6.65
Total (142 responses)	302	290	353	945

Table 106 - Workload distribution of tasks (linguists)

Skill	1	2	3	4	5	Total
Capacity to decide when to edit or discard (translate from scratch) an MT result	7	1	18	27	84	137
Capacity to post-edit according to PE guidelines	9	3	15	34	75	136
Capacity to post-edit up to human quality (full PE)	6	1	11	19	102	139
Capacity to post-edit to a good enough quality (light PE)	10	7	20	34	68	139
Capacity to pre-edit a source text according to CL	26	25	44	23	14	132
Capacity to train & tune an MT engine	30	32	35	19	13	129
Capacity to identify MT output errors	5	4	9	29	91	138
Capacity to apply the right correction strategy	7	4	20	38	66	135
Capacity to advise when MTPE is appropriate for a text or project	17	13	32	31	44	137
Capacity to provide feedback for the MT solution engineers	15	18	44	37	19	133
Capacity to learn about new technologies	10	15	34	28	52	139
Mean=	1	0.86	1.98	2.24	4.42	10.52
Total (142 responses)	142	123	282	319	628	1494

Table 107 - PE skills (linguists)

Criterion	Mandatory	Very important	Important	Not important
Capacity to post-edit into both directions	7	23	36	76

CAT tool(s) knowledge	56	42	34	10
Certification in PE by a professional association (ProZ, TAUS, etc.)	3	14	43	82
Experience in project management	5	11	35	91
MT system knowledge	17	42	45	38
Pre-editing or controlled language (CL) skills	7	24	43	68
Previous experience in post-editing MT output	27	54	46	15
Productivity (processing speed)	40	53	41	8
Quality assurance (QA) checking skills	53	47	29	13
Revision & proofreading skills	77	43	13	9
Skills using automatic speech recognition (ASR) or touch-screen technology	6	10	27	99
Specific locale (variant, sublanguage)	18	31	49	44
Subject field knowledge or specialization	44	50	38	10
Technical skills: macros, xliiff, tmx, Java, RegEx...	4	23	54	61
Terminology management & information mining skills	19	32	57	34
Translation Quality Assessment (TQA) skills (scores, metrics, evaluation, etc.)	17	29	50	46
University degree in Translation or related studies	24	46	38	34
Mean=	2.99	4.04	4.77	5.20
Total (142 responses)	424	574	678	738

Table 108 - Criteria considered when hiring a post-editor (linguists)

Type of mistakes	# Respondents	% Respondents
None, my post-edited output is always fit for purpose	23	16.2%
Under-editing (necessary corrections to the MT output are not applied)	25	17.6%
Over-editing (preferential changes that were not required are applied)	76	53.5%
Pseudo-editing (errors not present in the MT output are introduced)	1	0.7%
I do not know	13	9.2%
Other	4	2.8%
Total	142	100%

Table 109 - Types of PE risks (linguists)

Recruitment test for post-editors	# Respondents	% Respondents
Yes	56	39.4%
No	86	60.6%
Total	142	100%

Table 110 - Specific recruitment test (linguists)

Subsection 4.3 - The MT Post-editing project

Specific MTPE brief	# Respondents	% Respondents
Yes, the requester sends me detailed information: MT system used, how it was trained, metrics and scores of its quality...	14	9.9%
The requester might provide with some information: MT system used or general explanation of the workflow	51	35.9%
No	77	54.2%
Total	142	100%

Table 111 - Specific brief for MTPE projects (linguists)

Content in the MTPE brief	# Choices	% Choices
PE guidelines: general list of do's and dont's (such as: "fix misspelling errors: YES", "improve the style: NO")	53	22.6%
PE level: light or full post-editing	45	19.1%
Content profile (type of text, communication channel, STA...)	33	14.0%
PE guidelines: list of examples tailored to the language pair	37	15.7%
Examples of scenarios indicating when to discard a segment (= translate from scratch)	20	8.5%
Name of the machine translation (MT) system	18	7.7%
MT system architecture information (hybrid, rule-based, statistical, neural)	7	3.0%
Metrics about MT output quality	11	4.7%
Information on how the MT engine was trained and its most frequent errors	10	4.3%
Other	1	0.4%
Mean=3.61		
Total (65 respondents)	235	100%

Table 112 - Elements present in the MTPE brief (linguists)

PE Guidelines received	# Respondents	% Respondents
Yes	77	54.2%
No	65	45.8%
Total	142	100%

Table 113 - PE Guidelines received (linguists)

PE Guidelines used nevertheless	# Respondents	% Respondents
Yes	17	26.2%
No	48	73.8%
Total	65	100%

Table 114 - PE guidelines used by post-editors even when not received from requester

PE Guidelines typology used by post-editors	# Respondents	% Respondents
Internally customized general PE guidelines	34	36.2%
Internally customized and tailored to content type or language	30	31.9%
TAUS post-editing guidelines	6	6.4%

Only PE level indication (light or full post-editing)	20	21.3%
Other (several types / it depends)	4	4.3%
Total	94	100%

Table 115 - Type of PE guidelines (linguists)

Feedback asked to the post-editor	# Respondents	% Respondents
Yes	42	29.6%
No	100	70.4%
Total	142	100%

Table 116 - Feedback requested to post-editors (linguists)

Feedback elements sent by the post-editor	# Choices	% Choices
Type of error: collocation, syntax, grammar, spelling, punctuation, terminology...	24	22.2%
Examples of recurrent errors (structured template): source, MT, post-edited output	21	19.4%
Severity of the errors: critical, major, minor, neutral...	19	17.6%
General description of how the MT engine performs	16	14.8%
Examples of recurrent errors: only an informal list of words	14	13.0%
Examples of ST errors that turned into MT errors	12	11.1%
Other	2	1.9%
Mean=2.57		
Total (42 responses)	108	100%

Table 117 - Elements present in the PE Feedback (linguists)

TQA imposed	# Respondents	% Respondents
Yes	38	26.8%
No	104	73.2%
Total	142	100%

Table 118 - Translation Quality Assessment (linguists)

TQA	# Respondents	% Respondents
Yes	16	15.4%
No	88	84.6%
Total	104	100%

Table 119 - TQA used nevertheless by post-editors

TQA embedded in CAT	# Respondents	% Respondents
Yes	14	25.9%
No	40	74.1%
Total	54	100%

Table 120 - TQA integrated in CAT environment (linguists)

TQA linked to risk management	# Respondents	% Respondents
Yes	4	7.4%
No	8	14.8%

I do not know	42	77.8%
Total	54	100%

Table 121 - TQA linked to risk management in MTPE projects (linguists)

TQA model or tool	# Choices	% Choices
ATA (American Translators Association) error categorization	0	0.0%
ITS 2.0 Localization quality issues	2	3.1%
LISA QA Metric	6	9.4%
MQM (Multidimensional Quality Metrics)	4	6.3%
SAE J2450	2	3.1%
SDL TMS Classic Model	22	34.4%
TAUS DQF (offline)	3	4.7%
TAUS DQF Dashboard (online)	1	1.6%
Other	24	37.5%
Mean=1.18		
Total (54 responses)	64	100%

Table 122 - TQA models & tools used in MTPE projects (linguists)

Section 5 - Training & Education

Educational background in TS	# Respondents	% Respondents
Yes, Master or higher	74	52.1%
Yes, Bachelor	32	22.5%
No	36	25.4%
Total	142	100%

Table 123 - Post-editors' questionnaire respondents' educational background in Translation Studies

Other background than TS (free field)	# Respondents	% Respondents
PhD (Neurosciences, Social History, Applied Linguistics, Geography, Theology)	5	13.9%
N/A (just experience or other)	5	13.9%
A combination of studies in varied disciplines	4	11.1%
Philology, Linguistics or Literature	4	11.1%
Business Administration or Economics	3	8.3%
English Language	2	5.6%
German Studies	2	5.6%
Life Sciences or Biology	2	5.6%
Medical or Clinical Studies	2	5.6%
Theology	1	2.8%
Culture Studies	1	2.8%
Engineering or Computer Science	1	2.8%
Law	1	2.8%
Physics	1	2.8%

Other background than TS (free field)	# Respondents	% Respondents
Scandinavian Studies	1	2.8%
Education or Teaching Studies	1	2.8%
Total	36	100%

Table 124 - Studies not related to translation by post-editors' questionnaire respondents

Subsection 5.1 - Training in Post-editing of MT

Training in MTPE followed by post-editors	# Choices	% Choices
One provided by my firm, company, LSP or client	34	21.8%
One at University	12	7.7%
TAUS Post-Editing Course	6	3.8%
One provided by another association or organization	17	10.9%
Other	6	3.8%
Subtotal	75	48.1%
Mean=1.22		
I have never attended a training course on MTPE	81	51.9%
Total	156	100%

Table 125 - Training in MTPE attended by post-editors

Training provided by customer

PE Trainer (course provided by customer)	# Respondents	% Respondents
In-house staff	31	91.2%
TAUS Post-Editing/Reviewing Course	0	0.0%
Other	3	8.8%
Total	34	100%

Table 126 - Trainer of MTPE course by customer (linguists)

Mode of MTPE course	# Respondents	% Respondents
Presential	13	38.2%
Online (videoconference)	11	32.4%
Online (recorded)	10	29.4%
Semi-presential	0	0.0%
Other	0	0.0%
Total	34	100%

Table 127 - How the company's MTPE course is organized (linguists)

Duration in hours	# Respondents	% Respondents
0.5h to 6h	22	64.7%
7h to 15h	7	20.6%
20h or more	5	14.7%
Total	34	100%

Table 128 - Duration of LSCs' MTPE courses (linguists)

Training elements in the in-house MTPE course	# Choices	% Choices
-----------------------------------------------	-----------	-----------

Description of content profiles and text types according to MT systems	10	4.8%
Integration between the CAT tool and MT system	18	8.7%
MT evaluation: automatic & reference-based metrics	8	3.9%
MT evaluation: human (scoring, ranking, error categorization)	24	11.6%
MT systems: rule-based, example-based, statistical, hybrid, or neural	16	7.7%
PE attitude: decide when to discard and translate from scratch	15	7.2%
PE guidelines: exhaustive list and examples in the relevant language pair	19	9.2%
PE levels: light and full post-editing	22	10.6%
Practical PE exercises in the relevant language pair	18	8.7%
PE risks: under-editing, over-editing & pseudo-editing	16	7.7%
PE techniques and strategies (shift, replacement, addition, deletion)	16	7.7%
PE technology: PE tool, ASR, touchscreen, etc.	4	1.9%
Pre-editing and controlled languages	6	2.9%
Productivity tracking tools	10	4.8%
Quality estimation or confidence scores (predictive, without post-edited gold reference)	5	2.4%
Other	0	0.0%
Mean=6.27		
Total (33 responses)	207	100%

Table 129 - Training elements (linguists)

MTPE certification or test	# Respondents	% Respondents
Yes, certification	7	20.6%
Yes, evaluation test	6	17.6%
Yes, both	3	8.8%
No	18	52.9%
Other	0	0.0%
Total	34	100%

Table 130 - PE test and/or certificate by LSCs (linguists)

Training provided by University

MTPE course typology at University	# Respondents	% Respondents
A single subject matter	8	72.7%
Another subject matter that included some post-editing	1	9.1%
Other	2	18.2%
Total	11	100%

Table 131 - MTPE course at University (linguists)

Mode of MTPE course at University	# Respondents	% Respondents
Presential	10	90.9%
Online (videoconference)	0	0.0%
Online (recorded)	1	9.1%

Semi-presential	0	0.0%
Other	0	0.0%
Total	11	100%

Table 132 - Mode of training by universities

Duration in hours	# Respondents	% Respondents
0.5h to 6h	2	18.2%
7h to 15h	2	18.2%
20h or more	7	63.6%
Total	11	100%

Table 133 - Duration of Universities' MTPE courses (linguists)

MTPE certification or test by University	# Respondents	% Respondents
Yes, certification	2	18.2%
Yes, evaluation test	6	54.5%
Yes, both	2	18.2%
No	1	9.1%
Other	0	0.0%
Total	11	100%

Table 134 - MTPE certificate or test by University MTPE course (linguists)

Training provided by another group or association / Other (optional)

The question "Who was the training provider?" received four submissions:

NGO (GNDR) - Memsource
BDUE
ATA
SDL

Table 135 - PE training provision by other group/organization

Questions 58 to 62 were not answered by any respondent.

Never attended a MTPE course

Main reason for not attending a MTPE course	# Respondents	% Respondents
I think I do not need it or my current training is enough	35	44.3%
Lack of time	12	15.2%
Training courses are too expensive	4	5.1%
I do not know any training on MTPE	20	25.3%
I do not know	7	8.9%
Other	1	1.3%
Total	79	100%

Table 136 - Main reasons for not attending a MTPE course (linguists)

Section 6 - Technology & Tools

CAT tool	1st most used CAT	2nd most used CAT	# Total	% Total
SDL Trados Studio	68	16	84	38.5%
One developed by my company	20	13	33	15.1%
memoQ	10	16	26	11.9%
Memsource	16	10	26	11.9%
Wordfast	8	5	13	6.0%
MateCat	3	3	6	2.8%
Smartcat	3	3	6	2.8%
OmegaT	2	3	5	2.3%
Déjà Vu	3	0	3	1.4%
XTM Cloud	0	3	3	1.4%
GlobalLink	1	1	2	0.9%
Localize	2	0	2	0.9%
SDL Passolo	1	1	2	0.9%
Across	1	0	1	0.5%
CafeTran Espresso	1	0	1	0.5%
Multitrans	0	1	1	0.5%
Swordfish Translation Editor	1	0	1	0.5%
Transit (STAR)	1	0	1	0.5%
Virtaal	1	0	1	0.5%
Similis	0	1	1	0.5%
Mean=	1	0.53	1.53	
Total (142 responses)	142	76	218	100%

Table 137 - CAT tools most used for PE (linguists)

MT system architecture	# Choices	% Choices
Neural	32	22.4%
Statistical	11	7.7%
Rule-based	11	7.7%
Other	2	1.4%
Subtotal	56	39.2%
Mean=1.01		
I do not know	87	60.8%
Total	143	100%

Table 138 -MT systems' architectures used (linguists)

MT provider	1st most used	2nd most used	# Total	% Total
Google Translate	39	15	54	29.7%
DeepL	24	7	31	17.0%
One developed by my company	43	0	43	23.6%
SDL: AdaptiveMT, LanguageCloud, ETS	10	6	16	8.8%

MT provider	1st most used	2nd most used	# Total	% Total
Systran	7	2	9	4.9%
Bing Microsoft Translator	1	2	3	1.6%
Amazon Translate	10	2	12	6.6%
tauyou	2	1	3	1.6%
Babylon	1	0	1	0.5%
IBM (Watson Language Translator)	1	1	2	1.1%
Yandex.Translate	1	0	1	0.5%
OpenNMT	1	0	1	0.5%
PROMT	1	0	1	0.5%
Tilde MT (LetsMT!)	1	0	1	0.5%
Hub (Microsoft Translator for Business)	0	3	3	1.6%
Slate Desktop	0	1	1	0.5%
Mean=	1	0.28	1.28	
Total	142	40	182	100%

Table 139 -1st and 2nd most used MT providers (linguists)

MT trained with linguistic databases	# Respondents	% Respondents
Yes	45	31.7%
No	63	44.4%
I do not know	34	23.9%
Total	142	100%

Table 140 - MT system training with own linguistic data (linguists)

MT and TM integrated in tools other than CAT	# Respondents	% Respondents
No	113	79.6%
Yes, to localization software	16	11.3%
Yes, to subtitling software	5	3.5%
Yes, both with localization and subtitling software	1	0.7%
Other (I don't know)	7	4.9%
Total	142	100%

Table 141 - MT engine integrated with TM in tools other than CAT environments (linguists)

MT/TM combined in the editor	# Respondents	% Respondents
Yes	95	66.9%
No	47	33.1%
Total	142	100%

Table 142 - Combination of TM results with MT suggestions in editor (linguists)

Editing environment for MTPE (TM/MT not combined)	# Respondents	% Respondents
Text processing tool	27	57.4%
MT editor	15	31.9%

Other	5	10.6%
Total	47	100%

Table 143 -MTPE tool used when not integrating TM/MT (linguists)

Editing environment for MTPE (TM/MT combined)	# Respondents	% Respondents
CAT tool	80	84.2%
MT editor	11	11.6%
Other (I do not know / It depends)	4	4.2%
Total	95	100%

Table 144 -MTPE tool used when integrating TM/MT (linguists)

Origin indicated	# Respondents	% Respondents
Yes	67	70.5%
No	13	13.7%
I do not know	15	15.8%
Total	95	100%

Table 145 - Visibility of TM or MT origin per segment (linguists)

Repaired segments	# Respondents	% Respondents
Yes	39	41.1%
No	33	34.7%
I do not know	23	24.2%
Total	95	100%

Table 146 - "Patchwork" suggestions where the CAT tool mixes MT and TM (linguists)

Productivity tracking tool	# Choices	% Choices
Excel sheet	36	50.7%
Project management programs like Plunet, XTRF, Lotus, Everwin, Trello, Dapulse, etc.	5	7.0%
Software developed internally	7	9.9%
Pen and paper or watch	3	4.2%
Qualitivity	3	4.2%
TAUS DQF	1	1.4%
Other	5	7.0%
Klok	4	5.6%
Mite	1	1.4%
Subtotal	65	91.5%
Mean=1.12		
None	6	8.5%
Total	71	100%

Table 147 -Tracking tools used to obtain PE productivity rates (linguists)

QA tool	# Choices	% Choices
Xbench	49	29.3%
None	47	28.1%

Integrated in CAT tool	15	9.0%
Verifika	11	6.6%
Language Tool	11	6.6%
Software developed internally	9	5.4%
Antidote	5	3.0%
Other	5	3.0%
Checkmate	3	1.8%
QA Distiller	3	1.8%
Other	5	3.0%
ContentQuo	1	0.6%
lexiQA	1	0.6%
Project Open Translation Quality	1	0.6%
TQAuditor	1	0.6%
Mean=1.17		
Total	167	100%

Table 148 - QA tools used for PE (linguists)

Section 7 - Feelings & Thoughts

Opinion on adequateness of current MTPE courses	# Respondents	% Respondents
Yes	45	31.7%
No	41	28.9%
Other (I do not know)	56	39.4%
Total	142	100%

Table 149 - Opinion on adequateness of current MTPE training courses (linguists)

Access to PE internship platform	# Respondents	% Respondents
Yes	81	57.0%
No	59	41.5%
Other (I don't know)	2	1.4%
Total	142	100%

Table 150 - Willingness to access a virtual MTPE internship platform (linguists)

Awareness of existing work or publication of standards	# Choices	% Choices
ISO 18587:2017 Translation services- Post-editing of machine translation output	42	28.4%
ASTM WK46396 New Practice for Development of Translation Quality Metrics	6	4.1%
Subtotal	48	32.4%
Mean=1.14		
No	100	67.6%
Total	148	100%

Table 151 - Industry standards (linguists)

c. Questionnaire to trainers

Section 1 - Basic Information

Gender	# Respondents	% Respondents
Male	21	39.6%
Female	32	60.4%
Total	53	100%

Table 152 - Question #1 (trainers)

Country	# Respondents	% Respondents
Austria	1	1.9%
Belgium	3	5.7%
Croatia	1	1.9%
Czech Republic	1	1.9%
Finland	3	5.7%
France	6	11.3%
Germany	8	15.1%
Greece	1	1.9%
Ireland	1	1.9%
Italy	5	9.4%
Latvia	1	1.9%
Malta	1	1.9%
Poland	2	3.8%
Portugal	1	1.9%
Spain	8	15.1%
Switzerland	2	3.8%
United Kingdom	8	15.1%
Total	53	100%

Table 153 - Location respondents (trainers)

MTPE training part of professional activity	# Respondents	% Respondents
No	0	0.0%
Yes	53	100.0%
Total	53	100%

Table 154 - Respondents relevant to the questionnaire (trainers)

Trainer at more than one institution	# Respondents	% Respondents
Yes	10	18.9%
No	43	81.1%
Total	53	100%

Table 155 - Multiple MTPE training settings (trainers)

Training context (one setting)	# Respondents	% Respondents
At University, at a summer course	1	2.2%
At University, at the Bachelor level	2	4.3%

At University, at the Postgraduate level	41 ¹¹	89.1%
In a firm or LSP	0	0.0%
In a professional organization or association	0	0.0%
Other (both Bachelor and Postgraduate)	2	4.3%
Total	46	100%

Table 156 - MTPE Trainers' context for training in a single setting

Training contexts (more than one setting)	# Choices	% Choices
At University, at a summer course	5	15.2%
At University, at the Bachelor level	3	9.1%
At University, at the Postgraduate level	13	39.4%
In a firm or LSP	3	9.1%
In a professional organization or association	8	24.2%
Other	1	3.0%
Mean=2.2		
Total (15 responses)	33	100%

Table 157 - Trainers' contexts for training in multiple settings

Section 2 - Standards & Certifications

Standards presented	# Choices	% Choices
ASTM WK54884	0	0.0%
ISO 17100	25	31.3%
ISO 18587	20	25.0%
ISO 27001	1	1.3%
ISO 31000	0	0.0%
ISO 9001	8	10.0%
Other	2	2.5%
Subtotal	56	70.0%
Mean=1.86		
No	24	30.0%
Total (54 responses)	80	100%

Table 158 - Industry standards (trainers)

Certifications presented	# Choices	% Choices
SDL Project Manager Certified	10	12.8%
SDL Translator Certified	19	24.4%
TAUS Quality Assurance Manager Certified	3	3.8%
TAUS PE Certified	7	9.0%
ProZ Certified PRO	1	1.3%
Other (SDL Post-editing certification)	6	7.7%

¹¹ One of the respondents teaches PE in two universities and filled the questionnaire twice. For this reason, objective questions referring to the syllabus have a total of 54 submissions and subjective questions a total of 53.

Other (Memsorce Certification)	3	3.8%
Subtotal	49	62.8%
Mean=1.96		
No	29	37.2%
Total (54 responses)	78	100%

Table 159 - Certifications (trainers)

Section 3 - Current trends in MTPE teaching

Subsection 3.1 - Your Profile as a MTPE Trainer

Training focused on PE only	# Respondents	% Respondents
25 % or less	28	51.9%
Between 26% and 50%	11	20.4%
From 60% to the whole course	15	27.8%
Total	54	100%

Table 160 - Training course percentage focused on PE only

Training supports	# Choices	% Choices
TAUS Post-Editing/Reviewing Course	10	3.7%
Presentation of slides	49	17.9%
Readings	34	12.5%
Hands-on MT training task	29	10.6%
Hands-on MT output evaluation task	39	14.3%
Hands-on PE task (light)	41	15.0%
Hands-on PE task (full)	42	15.4%
Hands-on PE task (monolingual PE)	6	2.2%
Hands-on TQA task	20	7.3%
Other: Revision of PE texts	1	0.4%
Other: Hands-on on PM task	1	0.4%
Other: Hands-on on analysing MT projects	1	0.4%
Mean=5.05		
Total (54 responses)	273	100%

Table 161 - Training supports used by trainers

Methods	# Choices	% Choices
Human evaluation by error categorization	35	35.4%
Human task-based evaluation: edit distance after post-editing	35	35.4%
Automatic scoring (metrics like BLEU, TER, METEOR, etc.)	22	22.2%
Machine Translation Quality Estimation (QE) or confidence scores (predictive)	5	5.1%
Other (TAUS DQF, Productivity measurement)	2	2.0%
Mean=1.83		

Total (54 responses)	99	100%
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Table 162 - Top methods to evaluate MT output quality (trainers)

Subsection 3.2 - Content of the MTPE training

Read first ST or TT	# Respondents	% Respondents
Yes, I advise to read the source segment in the first place	17	31.5%
Yes, I advise to read the target segment in the first place	10	18.5%
No	20	37.0%
Other (we discuss both)	7	13.0%
Total	54	100%

Table 163 - Reading ST or TT first (trainers)

MT Suitability indicators	# Choices	% Choices
Content profiling (type of text, repetition rate, visibility, etc.)	42	41.6%
Current general quality of MT for the pair of languages at hand	33	32.7%
External factors play a central role: turnaround time & costs	21	20.8%
A thorough Source Text Analysis (STA) is carried out to evaluate non-translatability indicators	3	3.0%
Other	2	2.0%
Mean=1.87		
Total	101	100%

Table 164 - MT suitability indicators (trainers)

Editor type for MTPE	# Respondents	% Respondents
In a tri-column editor: source + MT output + post-edited output	10	18.5%
In a bi-column editor: source + MT output (where the changes overwrite the MT output)	36	66.7%
Other (Both; It depends)	8	14.8%
Total	54	100%

Table 165 - ST as reference (trainers)

Rating method for MTPE discussed at class	# Choices	% Choices
Price per hour	20	25.0%
Price per source word (pre-analysis)	16	20.0%
Price per source word (post-analysis)	11	13.8%
Price per target word	4	5.0%
Price per number of source pages	1	1.3%
Price per number of target pages	0	0.0%
Other	10	12.5%
Subtotal	62	77.5%
Mean=1.72		
No, we do not discuss rates	18	22.5%
Total	80	100%

Table 166 - Payment method (trainers)

Level of PE	# Choices	% Choices
Light post-editing or 'good enough quality'	42	43.3%
Full post-editing or 'human' quality	50	51.5%
Other	5	5.2%
Mean=1.79		
Total	97	100%

Table 167 - PE level (trainers)

Relations between raw MT output and final quality	# Choices	% Choices
Improving medium (acceptable) quality raw output to high or publishable quality	39	36.8%
Improving poor quality raw output to medium (acceptable) quality	32	30.2%
Improving poor quality raw output to high or publishable quality	29	27.4%
Other	6	5.7%
Mean=1.96		
Total	106	100%

Table 168 - PE scenarios (trainers)

Productivity in class (discussion)	# Respondents	% Respondents
Yes, less than 1000 wph	7	13.0%
Yes, between 1000 and 3000 wph	8	14.8%
Yes, between 3000 and 5000 wph	2	3.7%
Yes, more than 5000 wph	0	0.0%
Other	15	27.8%
No	22	40.7%
Total	54	100%

Table 169 - Turnaround in wph (trainers)

Elements in MTPE class (University)	# Choices	% Choices
Description of content profiles and text types according to MT systems	18	3.7%
Integration between CAT tool and MT system	43	8.9%
MT evaluation: automatic & reference-based (metrics)	27	5.6%
MT evaluation: human (scoring, ranking, error categorization)	45	9.4%
MT systems: rule-based, example-based, statistical, hybrid, or neural	50	10.4%
PE attitude: decide when to discard and translate from scratch	39	8.1%
PE guidelines: exhaustive list and examples in the relevant language pair	29	6.0%
PE levels: light and full post-editing	47	9.8%
Practical PE exercises in the relevant language pair	46	9.6%
PE risks: under-editing, over-editing & pseudo-editing	37	7.7%
PE techniques and strategies (shift, replacement, addition, deletion)	30	6.2%
PE technology: PE tool, ASR, touchscreen, etc.	7	1.5%
Pre-editing and controlled languages	35	7.3%
Productivity tracking tools	15	3.1%
Quality estimation (predictive, without post-edited gold reference)	10	2.1%

Other	3	0.6%
Mean=8.90		
Total (54 responses)	481	100%

Table 170 - Training elements (trainers)

Skill	1= slightly important	2	3	4	5=very important	Total
Capacity to decide when to edit or discard (translate from scratch) an MT result	0	0	5	9	38	52
Capacity to post-edit according to PE guidelines	1	1	3	5	43	53
Capacity to post-edit up to human quality (full PE)	0	1	1	8	43	53
Capacity to post-edit to a good enough quality (light PE)	2	1	7	16	27	53
Capacity to pre-edit a source text according to CL	5	11	18	10	8	52
Capacity to train & tune an MT engine	8	13	17	8	5	51
Capacity to identify MT output errors	0	3	2	12	35	52
Capacity to apply the right correction strategy	1	1	4	17	30	53
Capacity to advise when MTPE is appropriate for a text or project	0	1	8	10	34	53
Capacity to provide feedback for the MT solution engineers	1	11	15	15	11	53
Capacity to learn about new technologies	0	1	8	16	18	43
Mean=	0.33	0.81	1.63	2.33	5.41	10.52
Total (53 responses)	18	44	88	126	292	568

Table 171 - PE skills (trainers)

Errors frequently done by MTPE students	# Respondents	% Respondents
Under-editing (necessary corrections to the MT output are not applied)	22	40.7%
Over-editing (preferential changes that were not required are applied)	26	48.1%
Pseudo-editing (errors not present in the MT output are introduced)	2	3.7%
I don't know	4	7.4%
Total	54	100%

Table 172 - Types of PE risks (trainers)

Subsection 3.3 - The MT Post-editing Project

Name of task	Main	Secondary	Occasional	Total
Customization/Tuning of MT engines	3	13	29	45
Feedback collection on MT output quality for engineers	2	20	26	48
Management of MTPE projects: outsourcing, etc.	14	25	10	49
Material preparation for MT engine training	7	24	17	48
MT output quality evaluation (error categorization...)	23	23	4	50
PE guidelines design	15	20	16	51
Post-editing machine translation output	50	0	2	52

Pre-editing the source text	15	16	19	50
Proofreading of post-edited output (monolingual)	29	13	5	47
Quality control & text checking	43	6	2	51
Revision of post-edited MT output (bilingual)	41	8	3	52
Support users with CAT/MT tools	7	23	16	46
Terminology extraction and TB management	9	22	17	48
Tracking PE productivity	8	24	20	52
Mean=	5.02	4.47	3.51	13
Total (53 responses)	266	237	186	689

Table 173 - Workload distribution of tasks (trainers)

Discussion about informing the client of MT use	# Respondents	% Respondents
Yes	42	77.8%
No	11	20.4%
Other	1	1.9%
Total	54	100%

Table 174 - Disclosure of MTPE process to customer (trainers)

Discussion about post-editing into non-native language	# Respondents	% Respondents
Yes	29	53.7%
No	22	40.7%
Other	3	5.6%
Total	54	100%

Table 175 - PE into non-native language (trainers)

MTPE Assignment presented as such	# Respondents	% Respondents
Yes	43	79.6%
No	11	20.4%
Total	54	100%

Table 176 - Specific brief for MTPE projects (trainers)

MTPE Assignment's content	# Choices	% Choices
Content profile (type of text, communication channel, STA...)	36	14.5%
Examples of scenarios indicating when to discard a segment (= translate from scratch)	16	6.5%
Information on how the MT engine was trained and its most frequent errors	23	9.3%
Metrics about MT output quality	17	6.9%
MT system architecture information (hybrid, rule-based, statistical, neural)	30	12.1%
Name of the machine translation (MT) system	24	9.7%
PE guidelines: general list of do's and don'ts (such as: "fix misspelling errors: YES", "improve the style: NO")	37	14.9%
PE guidelines: list of examples tailored to the language pair	23	9.3%
PE level: light or full post-editing	38	15.3%
Other	4	1.6%

Mean=4.59		
Total (54 responses)	248	100%

Table 177 - Elements present in the MTPE brief (trainers)

MTPE Guidelines	# Choices	% Choices
They design them themselves	9	11.7%
They are designed by our Faculty or institution	7	9.1%
TAUS post-editing guidelines	29	37.7%
Only PE level indication (light or full PE)	14	18.2%
Other	18	23.4%
Mean=1.42		
Total (54 responses)	77	100%

Table 178 - Type of PE guidelines (trainers)

MTPE Feedback discussion	# Respondents	% Respondents
Yes	14	25.9%
No	37	68.5%
Other	3	5.6%
Total	54	100%

Table 179 - Feedback requested to post-editors (trainers)

MTPE Feedback template content	# Choices	% Choices
Examples of ST errors that turned into MT errors	5	11.1%
Examples of recurrent errors: only an informal list of words	3	6.7%
Examples of recurrent errors (structured template): source, MT, post-edited output	7	15.6%
General description of how the MT engine performs	8	17.8%
Type of error: collocation, syntax, spelling, punctuation, terminology...	11	24.4%
Severity of the errors: critical, major, minor, neutral...	11	24.4%
Other	0	0.0%
Mean=3.21		
Total (14 responses)	45	100%

Table 180 - Elements present in the PE Feedback (trainers)

TQA discussion	# Respondents	% Respondents
Yes	30	55.6%
No	24	44.4%
Total	54	100%

Table 181 - Translation Quality Assessment (trainers)

TQA discussion according to risk management	# Respondents	% Respondents
Yes	11	36.7%
No	19	63.3%
Total	30	100%

Table 182 - TQA linked to risk management in MTPE projects (trainers)

TQA model or tool	# Choices	% Choices
ATA (American Translators Association) error categorization	2	4.1%
ITS 2.0 Localization quality issues	1	2.0%
LISA QA Metric	4	8.2%
MQM (Multidimensional Quality Metrics)	16	32.7%
SAE J2450	2	4.1%
SDL TMS Classic Model	7	14.3%
TAUS DQF (offline)	11	22.4%
TAUS DQF Dashboard (online)	5	10.2%
Other	1	2.0%
Mean=1.63		
Total (30 respondents)	49	100%

Table 183 - TQA models & tools used in MTPE projects (trainers)

Section 4 - Translation Technology Tools

MT / TM combined in the editor	# Respondents	% Respondents
Yes, in a CAT tool	41	75.9%
Yes, in an MT editor	0	0.0%
No	8	14.8%
Other	5	9.3%
Total	54	100%

Table 184 - Combination of TM results with MT suggestions in editor (trainers)

Origin indicated	# Respondents	% Respondents
Yes	44	95.7%
No	2	4.3%
Total	46	100%

Table 185 - Visibility of TM or MT origin per segment (trainers)

TM threshold to introduce MT is discussed	# Respondents	% Respondents
Yes	24	52.2%
No	22	47.8%
Total	46	100%

Table 186 - Discussion of pre-translating threshold TM/MT

A specific TM threshold to introduce MT is advised	# Respondents	% Respondents
75% fuzzy match and below	21	87.5%
80% fuzzy match and below	3	12.5%
Total	24	100%

Table 187 - Threshold percentage TM/MT advised

Repaired segments	# Respondents	% Respondents
Yes	12	26.1%
No	34	73.9%

Total	46	100%
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Table 188 - "Patchwork" suggestions where the CAT tool mixes MT and TM (trainers)

Productivity tracking tools in MTPE class	# Choices	% Choices
Excel sheet	12	17.6%
Klok	0	0.0%
Project management program (e.g. Plunet, XTRF, Lotus, Everwin, Trello, Dapulse, etc.)	4	5.9%
Qualityity	4	5.9%
Software developed internally	1	1.5%
TAUS DQF	5	7.4%
Other	13	19.1%
Subtotal	39	57.4%
Mean=1.56		
None, we do not discuss productivity tracking tools	29	42.6%
Total	68	100%

Table 189 - Tracking tools used to obtain PE productivity rates (trainers)

QA tools in MTPE class	# Choices	% Choices
Antidote	4	6.5%
Checkmate	0	0.0%
ContentQuo	0	0.0%
Language Tool	1	1.6%
lexiQA	1	1.6%
Project Open Translation Quality	1	1.6%
QA Distiller	4	6.5%
Verifika	0	0.0%
Xbench	11	17.7%
Other	22	35.5%
Subtotal	44	71.0%
Mean=1.22		
None, we do not discuss Quality Assurance	18	29.0%
Total	62	100%

Table 190 - QA tools used for PE (trainers)

CA tools in MTPE class	# Choices	% Choices
Acrolinx	8	13.3%
CLAT	1	1.7%
Congree	1	1.7%
CrossAuthor	0	0.0%
HyperSTE	1	1.7%
MaxIT	0	0.0%
MindReader	1	1.7%
Other	5	8.3%

Subtotal	17	28.3%
Mean=1.54		
None, only text processing tools	29	48.3%
None, we do not discuss pre-editing	14	23.3%
	60	100%

Table 191 - Controlled authoring tools (trainers)

Section 5 - Feelings & Thoughts

Adequateness of current MTPE courses	# Respondents	% Respondents
Yes	9	17.0%
No	20	37.7%
I do not know	24	45.3%
Total	53	100%

Table 192 - Opinion on adequateness of current MTPE training courses (trainers)

Appreciate access to virtual internship platform	# Respondents	% Respondents
Yes	40	75.5%
No	7	13.2%
Other (I don't know / It depends)	6	11.3%
Total	53	100%

Table 193 - Willingness to access a virtual MTPE internship platform (trainers)

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