

Quality Control of Subtitles: A Study of Subtitlers, Proofreaders, Quality Controllers, LSPs and Broadcasters/Streaming Services

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Abstract

Quality control of subtitles is a relatively unresearched field, even though it has a significant influence on the overall quality, and thus viewers' experience of subtitles. It is carried out in different ways: various language service providers and broadcasters have different procedures, for instance, it sometimes solely involves proofreading. An online questionnaire has been distributed among professionals involved in the production chain of subtitles: broadcasters, streaming and video-on-demand services, vendors also known as language service providers, subtitlers, quality controllers and proofreaders. The hope is that this report will enable professionals involved in quality control of subtitles to further enhance their quality control procedures. The results of this research could also be used in experimental investigation of viewers' perception of quality in subtitling by using the same research methods applied in this study.

Key words: audiovisual translation, quality control, proofreaders, subtitlers, broadcasters, LSPs, SVODs.

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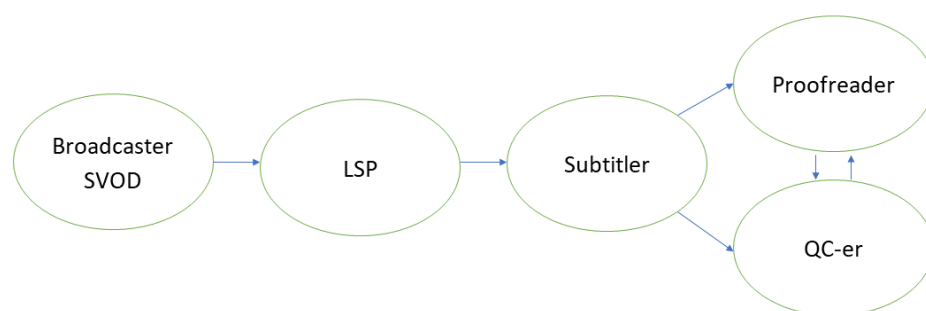
1. Introduction

In order to consider the quality control (QC) of subtitles, let us first take a quick glance at the term “quality.” Quality is discussed and analysed regularly in our daily lives. Countries, as well as cities, are ranked according to the quality of life they provide to their residents. The quality of food we eat and the water we drink, and lately, especially because of the climate crisis, the quality of the air we breathe are discussed and analysed widely. One could say that any service, resource and product we use is assessed for its quality, either through organised processes, or solely from the point of view of user perception. In the ever more digital and audiovisual world, particularly during the Covid-19 dominated years of 2020 and 2021 when this study was conducted, it is not surprising that quality of translation and subtitles is discussed and that subtitles are assessed for their quality too. Some researchers consider the quality of translation to be “[as] elusive an idea as ‘happiness,’ or indeed, ‘translation.’ Quality means very many different things depending on your perspective” (Pedersen, 2017, p. 210).

It is this idea of different views on quality depending on your perspective that has partly motivated me to conduct the investigation of the landscape of quality control in subtitle production. The production of subtitles starts with the broadcaster or streaming and video-on-demand service requesting that an audiovisual product, such as film, TV series, reality show, etc., be subtitled. The request then normally goes to a language service provider (LSP) who hires subtitlers to subtitle the audiovisual product. In some instances, broadcasters may directly hire subtitlers, however, that depends on the broadcaster’s business model. Quality control in the case of interlingual subtitling involves a comprehensive review of both linguistic and technical aspects of subtitling. Quality controllers (QC-ers) are usually more experienced subtitlers who check subtitles for their technical accuracy against client’s guidelines, as well as spelling and grammar, register and accuracy of translation. Quality control practices also vary, as the reader will be shown in subsequent sections of this article. Proofreading is at times a task conducted by subtitlers themselves, and at times separate proofreaders are hired to conduct the job (cf. Nikolić, 2005). Figure 1 shows the diagram of the subtitles’ production chain (for more on definitions of these professions, see Section 2.3.)

Figure 1.

The Production Chain of Subtitles



Source: author’s own elaboration

This diagram doesn't include the steps practiced by some LSPs, and that is returning subtitles to the subtitler for further review after proofreading or QC, or broadcasters returning the subtitles to the LSP for further review in the case of negative feedback from viewers for instance. Practices vary depending on whether subtitlers, QC-ers and proofreaders are hired by the broadcaster/SVOD provider or the vendor/LSP, or both.

The design of the questionnaire sent out to professionals involved in the above cycle was led by the following research questions:

- a) How do various stakeholders (cf. following paragraph) conceive of "quality" in subtitling?
- b) Who in this cycle is the most responsible for the quality of subtitles?
- c) Do QC-ers also work as subtitlers?

The aim of this research and the resulting article is to shed more light on the various processes LSPs and broadcasters have in place in order to ensure the quality of subtitles, and indeed what steps subtitlers, proofreaders and QC-ers take to ensure quality. An online questionnaire was distributed among professionals involved in the production cycle of subtitles: broadcasters, SVOD service providers, as well as LSP managerial staff, plus subtitlers, QC-ers and proofreaders. These professionals will be jointly referred to as stakeholders throughout the article.

The hypotheses of this research are:

- a) Stakeholders have differing understanding of the "quality" of subtitles.
- b) Stakeholders have varied opinions about who is the most responsible for the quality of subtitles.

The following section offers an overview of the studies of quality in translation, models for assessing the quality of subtitles and similar studies on quality of subtitles, as well as a brief overview of national guidelines for subtitling.

2. Background

Let us first delve into the context in which this study on quality control of subtitles is conducted. Devising models and methods for translation quality assessment is not new. Julianne House published an article based on her doctoral thesis introducing her model for translation quality assessment (House, 1977) and subsequently published a book on that same topic (House, 1981). Eleven translation quality assessment models were analysed by O'Brien (2012) in which the author concluded that most models are based on error typology. Since most models of translation quality assessment (cf. also Nord; 1997; Schäffner, 1998; and Gouadec, 2010) cannot usefully be applied to subtitles, which contain additional temporal and spatial constraints that impact quality, AVT researchers went further and devised models for the evaluation of the quality of subtitles. A model

of subtitle quality assessment in the context of live subtitling for the deaf and hard-of-hearing, or SDH subtitles, has been devised by Romero-Fresco and Martínez (cf. Romero-Fresco & Martínez, 2015). This model, called NER, was used by the British communications regulator Ofcom (Ofcom, 2014) in their study on measuring live subtitling quality. The model is used to calculate subtitle accuracy with the formula shown in Figure 2.

Figure 2.

The NER Model

$$Accuracy = \frac{N - E - R}{N} \times 100$$

CE (correct editions):

N = number of words
E = edition errors
R = recognition errors

Source: Romero-Fresco & Martínez (2015, p. 32)

Based on this model, Romero-Fresco & Pöchhacker proposed the NTR model for the analysis of interlingual live subtitling, where the E, edition errors, from the NER model is replaced with T, or “errors of translation” (Romero-Fresco & Pöchhacker, 2017, p. 158). A model for assessing interlingual subtitles called the FAR model has been put forward by Pedersen, partly inspired by the NER model. The author based his model on assessing functional equivalence, the quality of the message rendered; acceptability of subtitles, or how well the subtitles follow target language norms, and readability, how easy it is for the viewer to process subtitles (Pedersen, 2017, p. 217). The term “readability” was mentioned quite frequently when stakeholders described quality subtitles in this study, as we are going to see. Both NTR and FAR model seem problematic for everyday quality control of subtitles since both apply different levels of gravity to each particular error, a procedure that cannot be easily applied to lengthy AV materials, such as films for instance, because the QC process would be too time-consuming. Despite these problematic aspects, these models are being used in some cases in the industry. None of the participants of my survey mentioned any of these models for quality assessment of subtitles. However, a more detailed survey among vendors and broadcasters could reveal whether they use parts of these models for assessment of subtitles.

More than two decades ago, a seminal *Code of Good Subtitling Practice* was proposed, in which many of the recommendations are indeed connected to subtitling quality (cf. Ivarsson & Carroll, 1998, p. 157–158). The Code was also endorsed by the European Association for Studies in Screen Translation (ESIST) and several entries in it are directly connected to subtitling quality, for instance point 18, “No subtitle should appear for less than one second or, with the exception of songs, stay on the screen for longer than seven seconds” (Ivarsson & Carroll, 1998, p. 158). Subtitling has indeed changed since 1998, and ESIST has published a collection of various AVT guidelines and policies¹, that also include

¹ <https://www.esist.org/resources/avt-guidelines-and-policies/>

company-specific, but also national subtitling guidelines (ESIST, 2021). Since the participants in this research come from various countries, let us briefly discuss national subtitling guidelines.

2.1. National Guidelines

Points such as the above regarding subtitle duration from the Code, have had an influence on the creation of national subtitling guidelines, a set of rules subtitlers in a given country should follow, since the assumption is that the viewers are used to subtitles created in a specific way and that they can process them more easily.

Audiovisual Translators Europe, AVTE, is “the European federation of national associations and organisations for media translators of all kinds” (AVTE, 2021). Websites of national AV translators’ associations in Croatia, Czechia, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Poland, Spain, Slovakia, Slovenia, Sweden and the United Kingdom can be accessed through AVTE’s website, as well as subtitling guidelines recommended for some of these respective AVTE member-countries. For instance, in October 2020, a couple of months before the start of this research project, Guidelines for Subtitling in Slovenia (DSFTP, 2020) were published on the Association of Slovenian Film and TV Translator’s, or DSFTP’s website. National guidelines such as the Slovenian ones are expected to be followed by all stakeholders in the production chain of subtitles (see Figure 1) in a given country. Other national guidelines, such as Croatian, Danish and Norwegian subtitling guidelines, can be accessed both through AVTE’s and, as of recently, ESIST’s websites. These guidelines suggest how and when to use italics for instance, how subtitles should look, in essence they elaborate how the points mentioned in the Code of Good Subtitling Practice are applied in a given country. This research aims to shed more light on whether these guidelines are solely a recommendation, or an obligation, and how much they are followed by broadcasters and vendors, if at all. ESIST’s website also lists a collection of company guidelines which subtitlers are expected to follow such as the subtitling guidelines from the Italian public broadcaster RAI², as well as those from the largest SVOD player on the market, Netflix. The latter has published its subtitling guidelines,³ including those for subtitling into specific languages, on its website. Just a brief comparison of guidelines, such as those set out by RAI and those laid down by Netflix for subtitling into Italian, shows discrepancies, for instance in the number of characters per line, subtitle segmentation, timing, etc.

² http://www.rai.it/dl/docs/1521654837138PREREGISTR_22_feb_2016_-_Norme_e_Convenzioni_essenziali_per_la_composiz....pdf

³ <https://partnerhelp.netflixstudios.com/hc/en-us/articles/215758617-Timed-Text-Style-Guide-General-Requirements>

2.2. Surveys of Subtitling Quality

Several studies on quality control similar to the one reported on in this article have been conducted, however none of them have included all stakeholders involved in the production of subtitles, as this one does. Robert and Remael (2016) conducted a survey of issues connected to subtitling quality in 2013 among 99 subtitlers. For them “[q]uality control is the part of quality management focused on fulfilling quality requirements, whereas quality assurance is that part of quality management that focuses on providing confidence that quality requirements have been fulfilled” (Robert & Remael, 2016, p. 579). The study has also given insight into the revision process of subtitles. For instance, the researchers established that 45% of respondents revise their own work, whereas 41% of subtitlers revise their work in two steps, indicating that revision processes varied greatly (p. 601). Robert and Remael identified technical and translation parameters for subtitling quality. Translation quality parameters are: content and transfer; grammar, spelling and punctuation; readability and appropriateness. Technical parameters are speed, spotting and formatting. Another similar study was conducted by Kuo (2014), the results of which were published in her doctoral dissertation in 2014. Kuo received four times more answers than Robert & Remael. Both studies, by Kuo and Robert and Remael, have shown that subtitlers’ clients put more emphasis on the technical parameters in subtitling than on linguistic accuracy.

While these two studies focussed on subtitlers, a study by Szarkowska, Díaz-Cintas, & Gerber-Morón evaluated the perception of quality in interlingual subtitling focussing on subtitlers and viewers in two separate studies (cf. Szarkowska et al., 2020). The authors received answers from 237 subtitlers. The second study included viewers who were native speakers of English, Spanish and Polish, with between 20 and 30 viewers in each group. The researchers concluded that most subtitlers view subtitling from a product viewpoint, rather than a process viewpoint. Another important finding in their study is that none of the 237 professionals was aware of translation quality assessment models. While condensation is an important aspect of subtitling, it is not something viewers crave according to their study. The authors recommended that future studies should focus more on other stakeholders in the subtitling process, and this study follows that recommendation, allowing us to compare data with these previous, similar studies, in parts where they overlap, which is largely connected to the surveys conducted among subtitlers.

2.3. Terminology Used in this Study

The International Standard for Translation Services 17100:2015 specifies check, revision, review and proofreading as regards the parts of the translation process aimed at ensuring translation quality (International Standard, 2015, p. 10–11), however, the standard refers to translation in general. In AVT, some authors give different definitions of QC differentiating it from quality management (QM) and quality assurance (QA). QA and QM are considered to be synonyms, while QC “[c]onsists of the procedures that are applied before, after and during the translation process. They are applied to the translation process and the translation product, in order to monitor that specific requirements are

met” (Díaz-Cintas & Remael, 2021, p. 141). The term QC is used here to describe the full linguistic and technical review of subtitles, by another, usually more experienced subtitler, since this term is widely used in the AVT industry. The term QC is used for the analysis of subtitles as a product, rather than a process. The QC-er watches the video mostly in the software the subtitles are produced in, and checks the subtitles against the client’s specifications regarding technical aspects of subtitling such as reading speed and shot changes, italics, forced narratives, positioning, line breaks, etc., but also fluency, linguistic accuracy, style and register.

Proofreading can mean conducting a full linguistic review of subtitles that may involve simultaneous watching of the corresponding video, while at times it may only involve reading subtitles in the software they are produced by a target-language expert who isn’t a subtitler, but a target-language expert usually with a university degree in the target language. Such proofreading may have advantages over QC since more concentrated reading of subtitles, not synchronously with the video, may be more beneficial for adding fluency and eliminating typos and grammatical errors. However, such proofreading should be followed by QC in order to ensure quality if proofreading doesn’t involve the control of the technical aspects of subtitling, which are crucial for view experience.

The term “review” is used differently by different authors. For instance, review can mean checking only a part of the text for some authors, the so-called “spot-check” (Mossop, 2014, p. 159). It is worth noting that this definition of reviewing by Mossop doesn’t include audiovisual translation. Spot-checks are indeed performed in the subtitling industry, but they are neither QC nor proofreading, both of which involve thorough checking of the entire subtitling file, whereas proofreading excludes technical check of subtitles for timing aspects. Robert and Remael also use the term revision “to refer to an activity that covers the entire text only” (Robert & Remael, 2016, p. 581). The term revision will be used in this study as a holistic term that includes both quality control and proofreading. As we are going to see later in this article, proofreading is also a part of what Robert and Remael call “self-revision” (p. 581), which refers to the proofreading that subtitlers perform themselves before sending their files to QC or proofreading proper. We are also going to see that some LSPs rely only on this self-revision, which may have detrimental effect on the final subtitling product, since it may be challenging for subtitlers to spot their own mistakes. Netflix conversely performs various types of quality control, one of which they term Localisation QC, or Loc QC:

Localization QC qualifies translation quality, consistency and style guide conformance. This process involves a QC operator reviewing the timed text asset, implementing changes and categorizing the reasoning for the changes. Localization QC is performed on the following asset types: subtitles, SDH/Closed Captions. (Netflix, 2021a).

The QC operator mentioned is another subtitler, usually a more experienced one (see Section 4, Findings).

Having discussed the background in which this study is placed and terminology used, let us now shift our attention to the methodology used.

3. Methodology

In order to obtain responses from as many stakeholders as possible, in a relatively short time, an online questionnaire was created, which is usually the preferred method of data collection when a large number of participants are to be included in a survey (cf. O'Brien, 2012; Pavlović & Stanojević, 2020). Furthermore, in previous similar studies questionnaires were also partly or exclusively used (cf. Kuo, 2014; Robert & Remael, 2014; Szarkowska et al., 2020). The questionnaire was compiled by combining closed and open questions which enabled the collection of "semi-structured data" (Pavlović & Stanojević, 2020, p. 74), and all data was collected anonymously. The initial part of the questionnaire gathered demographic data: gender, age and country, and was the same for all participants, regardless of their role in the subtitling industry. The fourth question asked about the role the stakeholder plays in the production chain of subtitles. Depending on the selection of the role: subtitler, quality controller, proofreader, LSP employee or an employee of a video streaming service or broadcaster, the participant was taken to the part of the questionnaire that was created for their specific role. However, subtitlers and QC-ers were able, if they worked in both roles, to fill in both parts of the questionnaire, those for subtitlers and QC-ers. The reason for that was the understanding that many QC-ers are also subtitlers, and that some, usually more experienced, subtitlers are also QC-ers. The questionnaire was compiled in Google Forms, a format also used by Robert and Remael (cf. Robert & Remael, 2016). The survey was open between the 4th and 31st of January 2021 and it was posted on AVTE's Facebook page from where it was re-shared by the Eurasian Subtitlers League's Facebook page and several other individual followers of AVTE's Facebook page. I also shared the survey on the Facebook page of the Croatian Association of Audiovisual Translators, DHAP, as well as on my personal LinkedIn and Twitter profiles, from where it was further reposted by some AVT professionals. On the 4th of January, the survey was also e-mailed, using personal contacts, to various broadcasters and streaming services.

The questionnaire consisted of the three already mentioned demographic questions (gender, age and country) that were the same for all participants, and different parts of the questionnaire aimed at different stakeholders, which were organised as follows:

- a) Subtitlers were asked 13 questions, out of which two were open questions and the rest were closed. As already mentioned, subtitlers were also asked the final closed question about whether they also worked as QC-ers. If they answered affirmatively and wished to answer that part of the questionnaire, they were taken to the QC part of the questionnaire.
- b) QC-ers were asked eight questions, out of which three were open and five were closed. The ninth question was about whether they also worked as subtitlers and if they answered positively, and wished to answer that part of the questionnaire, they were taken to the subtitlers' part of the questionnaire.
- c) Subtitlers and QC-ers were given a choice to decide which part of the questionnaire to answer first if they performed both tasks. The expectation was that they would first answer the part of the survey corresponding to how they predominantly identified

themselves professionally, as QC-ers or subtitlers, or in which role they spent more time working.

- d) Proofreaders were asked seven questions, with two open questions among these seven.
- e) Employees of LSPs were asked five questions, of which four were open.
- f) Broadcasters were asked the same number of questions as employees of LSPs, and the structure was the same.

The expectation was that numbers of responsive professionals working in each stakeholder group would be different. Subtitlers are the most numerous, while on the other hand the number of broadcasters and streaming services is smaller. When the survey was closed, it was exported to Macintosh's Numbers tool for further coding analysis. Let us now focus on the survey participants and findings.

4. Findings

4.1. Participants

The aim was to conduct a global study without specific focus on any region. The number of participants who took the survey was 129 in total. More specifically, 106 responses were received from subtitlers, 60 from QC-ers, including 57 who also worked as subtitlers and they filled in the part of the questionnaire aimed at subtitlers too, eight by proofreaders, and equal number of responses (6) in each of the two clients' groups, the LSPs and broadcasters/SVODs, as seen in Table 1 below:

Table 1.

Number of Responses per Group

Broadcasters /SVODs	LSPs	Proofreaders	QC-ers	Subtitlers
6	6	8	60	106

Number of participants: 129

Total number of answers per stakeholder group: 186 (see introduction to this Section)

Source: author's own elaboration

The longer the questionnaire, the higher the risk that participants are going to give up participating in the survey, which is why this particular study was designed solely focussing on the main research questions and hypotheses (see Section 1., Introduction).

Firstly, let us focus on the answers to the three demographic questions put to all participants and then turn to each stakeholder group, following the production cycle of subtitles (see 1).

The participants' gender distribution was almost the same as in Kuo's (2014) and Robert & Remael's (2016) studies, with 75.2% identifying as female and 21.7% as male when selecting their gender. This gender distribution was expected since most participants in this survey were subtitlers and a large majority of subtitlers are women. Two participants decided not to specify their gender, one identified as agender and another one as enby.

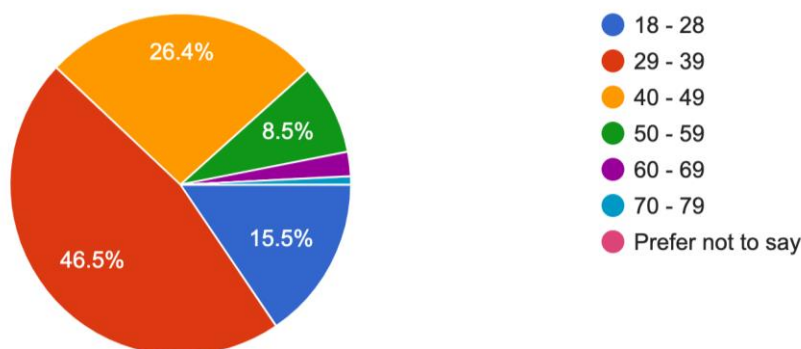
As regards the age group of participants, most of them, 46.5%, were from the 29–39 age group, with the rest of the age distribution visible from Figure 3 below. None of the participants decided not to specify their age group, which was also an option.

Figure 3.

Participants' Age Group Distribution

What is your age group?

129 responses



Source: author's own elaboration

The last of the demographic questions was the one in which participants were asked to specify the country in which they currently reside and work. The participants were from as many as 32 countries, from all continents except Africa. Countries of origin, with the number of participants from each, were the following in descending and then alphabetical order:

Portugal (21), United Kingdom (16), Croatia (12), Italy (9), Russian Federation (8), Spain (7), Finland (5), France (5), Argentina (4), Germany (3), Greece (3), Mexico (3), Sweden (3), Turkey (2), United States (3), Australia (2), Colombia (2), Czech Republic (2), Hungary (2), India (2), Norway (2), Poland (2), Ukraine (1), Brazil (1), Canada (1), Chile (1), Denmark (1), Iceland (1), Iran (1), New Zealand (1) Thailand (1) and Venezuela (1). One participant skipped this question.

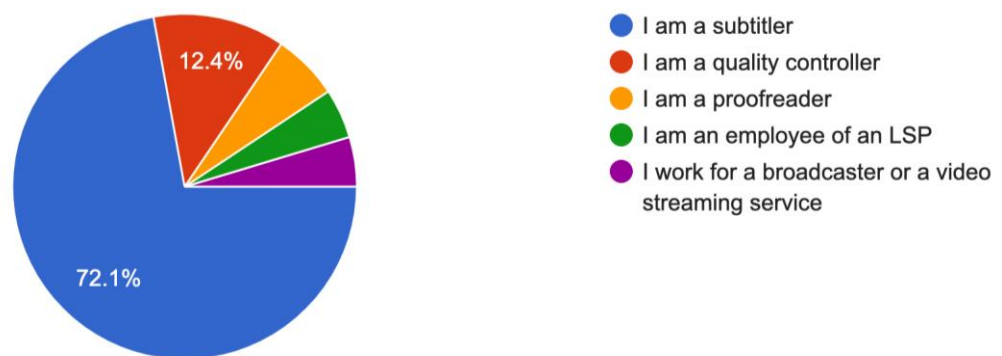
The question connected with the role the participants played in the subtitling industry took them to the part of the questionnaire specifically created for their role. Out of all participants in the survey 93 or 72.1% specified that they worked as subtitlers, 16 or 12.4% as QC-ers, 8 or 6.2% as proofreaders, 6 or 4.7% as employees of an LSP and the same number and percentage specified that they worked for a broadcaster or a streaming service, as seen in Figure 4 below.

Figure 4.

Participants' Role in the Localisation Industry

What role do you perform in the localisation industry?

129 responses



Source: author's own elaboration

The following sections present the answers grouped by the participants' role in the production chain of subtitles (see also Figure 1).

4.1.1. Broadcasters or SVOD Employees

The production chain of subtitles begins with the client ordering the creation of subtitles, which in most cases means either a traditional linear broadcaster or a streaming service such as Netflix. The six participants occupy the following roles in their companies: Project Manager, Quality Controller, Programmer, Vendor, Director and Head of Acquisition & Distribution Operations. Asked how they ensure the quality of subtitles, and with one skipping the answer to this question, the participants answered that they⁴:

- a) have a team of professional subtitlers who perform QC before delivering;
- b) always proofread and check subtitles;
- c) use a proofreader;

⁴ The answers in Section 4 have been quoted directly from the questionnaire and they haven't been edited.

- d) verify placement, timing, appearance, redundancies, stylistics and consistency;
- e) outsource localisation, always making sure proof has been performed already.

The following question was connected to who they consider to be the most responsible for the quality of subtitles. Four out of six participants answered that they thought the primary party responsible is the subtitler. However, not all believed that. One participant believed it was the quality controller who was the most responsible, while one believed it was the vendor, namely the LSP.

The next question was aimed at establishing what this group of participants thinks quality in subtitling is, and what quality subtitles are. It is worth noting that all participants were asked this question, in order to establish whether hypothesis one was valid (see Section 1, Introduction). The answers were as follows:

- a) a subtitle with no typos, grammar mistakes, in sync, well positioned on the screen, split in a logical way;
- b) terminological and situational accuracy, coherency, appropriate number of CPS [characters per second], readable font and consistent placement, lack of orthographical and punctuation errors;
- c) readable, in frame, not automatic or machine-translated, awareness of colloquialisms and culturally specific translation;
- d) correct translation (not mistranslated), enough time to read, correct grammar, no typos, creative translation (correct rendering of jokes and expressions);
- e) subtitles that are aesthetic, that conform to studio guidelines, true to the audio, placed and timed correctly and readable;
- f) when the intentions of the creator are correctly communicated, and the subtitler is “invisible.”

The last, optional, question was open in both form and content. The participants were asked if there was anything they would like to add about the quality of subtitles, and 5 out of 6 participants decided to add their final thoughts on the subject. The summary of those final thoughts is that broadcasters not only care about the technical parameters of subtitling, but also about the quality of translation itself. Subtitlers often don't have direct lines of communication with broadcasters and streaming services that broadcast their subtitles, but with vendors to which broadcasters often outsource their requests for localisation services. Let us see what vendors think about quality.

4.1.2. LSP Employees

LSP employees were mostly Project Managers (4), as well as Head of Subtitling (1) and Team Lead (1). Since LSPs often hire both subtitlers and QC-ers, they were asked how they selected their QC-ers. They claimed that QC-ers are skilled, experienced subtitlers. The question about quality was phrased slightly differently compared to the one put to broadcasters and streamers. LSP employees were asked about who is the most responsible, the QC-er or the subtitler, or a third party, if a mistake is

created in a subtitle file. Two participants claimed that both the QC-er and the subtitler can be equally blamed, one said it was the subtitler, another one said it was the QC-er, while two participants decided to give more detailed, descriptive answers. One specified that the LSP is responsible if they select QC-ers and subtitlers, but added that if they had to give a simple answer, both the QC-er and the subtitler are equally responsible. The last participant in this group said it was a mistake to blame one or two people without knowing the circumstances of the job. This group of participants was also asked about what they thought quality subtitles were. Their answers were quite similar to the ones given by the broadcasters and streamers. All six participants said that quality subtitles are those that are readable and follow technical parameters, but they also consider linguistic quality to be of equal weight, using the words such as “accurate” and “well-rendered” to describe it.

The last question put to this group of participants was about how they ensured the quality of subtitles. They gave the following answers:

- a) by hiring and training competent subtitlers and QC-ers, and through transparency and meaningful feedback along the production chain. Education vs. punishment. I am not a fan of the “shark tank,” “one in, one out,” metrics-driven only mentality that is taking root in the industry. Personal touch and attention to detail all the way;
- b) besides a global QC for errors, typos and correct segmentation, subtitles should convey the original message in a way that is easy to read and understand, despite the reduction and omission of some elements of the source dialogue, which the viewer shouldn’t perceive. Concretely, after translation and first QC by a proofreader, we usually have another linguist to view the episode/movie in a critical manner. This person will suggest changes and ways to make the text sound more natural in the target language;
- c) three layers of checks: translator, reviewer and PM. It starts by reviewing the whole video, then random checks and checking again;
- d) maintaining a pool of educated and experienced translators given fair conditions and feeling responsible for their work, engaged in a sound workflow with quality checks throughout by experienced QC-ers and skilled PMs, complemented by feedback and training loop supported by tooling;
- e) giving enough time where possible and trusting that my teams will choose the right people. Also, making sure that all teams in the process will do their bit to ensure quality (subtitling, proofreading, technical QC and delivery).

Let us now turn our attention to the creators of subtitles, the subtitlers. Since the primary distribution channel for the questionnaire was AVTE, it was expected that subtitlers would be the largest group of participants in this study.

4.1.3. Subtitlers

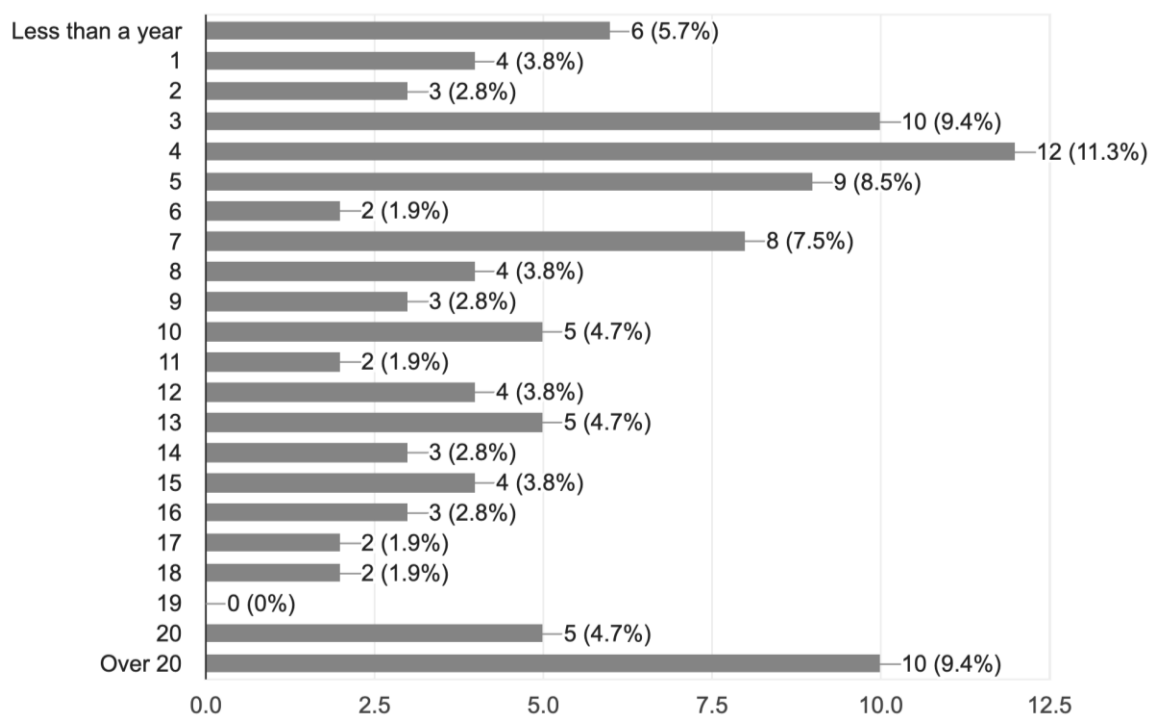
The level of experience of 106 subtitlers who participated in the survey, varied from less than a year (6), to over 20 years of experience. The various levels of experience are to be seen in Figure 5 below.

Figure 5.

Subtitlers' Level of Experience

How many years have you been working as a subtitler?

106 responses



Source: author's own elaboration

Subtitlers were then asked about their educational background. MA/MSc in Modern Languages and/or Translation is the qualification held by 53 subtitlers, or 50% of participants, while 19 or 17.9% hold a BA degree in the same field. As many as 12 participants or 11.3% hold the highest qualification in modern languages and/or translation, a PhD. The rest of the subtitlers hold various types of qualifications such as: MA in Social Sciences, BSc in STEM, postgraduate degree in Translation, advertising degree, BA in Media Studies, MA in Psychology, to name some. One translator only specified that they have more than ten years of experience in the industry.

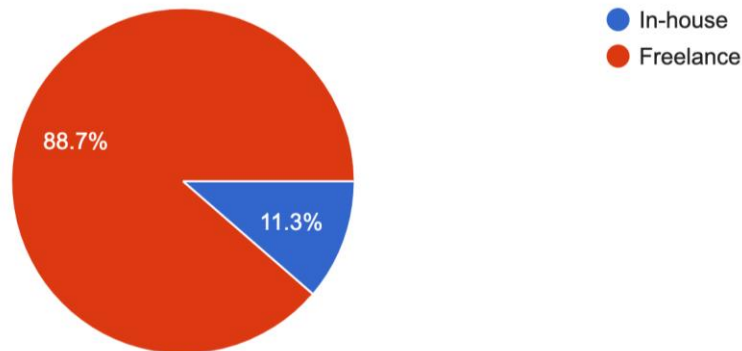
The following question was connected to subtitlers' professional status (for more on professional aspects of the profession see Kuo, 2014), with 94 or 88.7% answering that they work as freelancers, while 12, or 11.3%, work as in-house subtitlers, as seen in Figure 6.

Figure 6.

Subtitlers – Type of Employment

Are you are an in-house or freelance subtitler?

106 responses



Source: author's own elaboration

It is a well-known fact that most subtitlers work as freelancers or self-employed professionals, which is why this information was not surprising. I also wanted to check what type of subtitling the participants performed. As many as 80 participants, or 75.5%, work as interlingual subtitlers, 21 or 19.8% work both as interlingual and intralingual subtitlers, while four participants or 3.8% work solely as intralingual subtitlers. None of the participants was a live subtitler, and one of them selected "other," without specifying what other type of subtitling they performed.

Since quality control and proofreading of subtitles are used to ensure quality, as pointed out by both LSP and broadcaster employees (see 4.1.1 and 4.1.2), let us examine the subtitlers' perception of this matter when it comes to the percentage of subtitles that are QC-ed and/or proofread. Subtitlers were asked whether all their subtitles were proofread or QC-ed. Thirty-eight subtitlers or 35.8% stated that their subtitles are both QC-ed and proofread, 15 subtitlers (14.2%) said their subtitles are QC-ed, while 19 (17.9%) said that the subtitles they work on are proofread. The remaining third of subtitlers gave varied answers, with most of them stating that they mostly proofread their own work and that hiring a proofreader is not customary in their country or is not carried out by their vendor, or that only some of their work is proofread or QC-ed. The conclusion is that around two thirds of subtitlers regularly have their work QC-ed or proofread, or both, while a third rely on their own proofreading or on only some of their work being QC-ed or proofread by a second pair of eyes. Subtitlers were then asked about what they do with the feedback they get, and 76 (71.7%) stated they studied it in detail to improve their work, 15 (14.2%) occasionally take the feedback they get on board, while the rest said they either don't get any feedback, or they use their own judgement about which part of the feedback they can use.

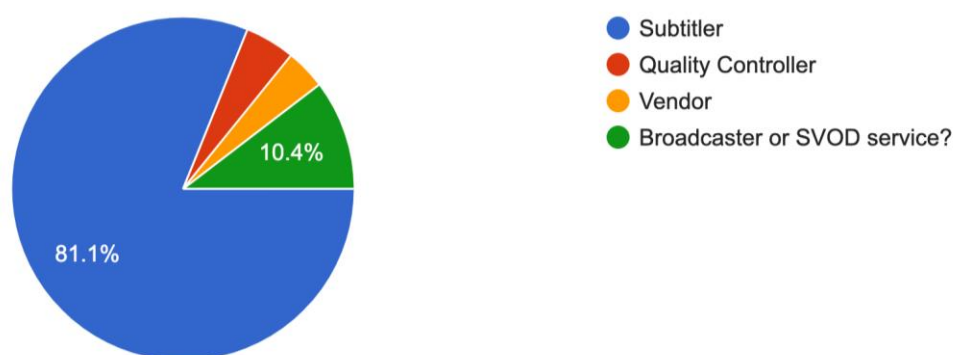
According to this survey, most subtitlers believe they are the agent most responsible for the quality of subtitles, specifically 86 (81.1%) of those surveyed, while 11 (10.4%) believe the primary responsibility lies with the broadcaster or streaming service. Five (4.7%) believe the QC-er is the person with the highest responsibility, while 4 (3.8%) deem it is the vendor, as seen in Figure 7 below:

Figure 7.

Who Subtitlers Believe Has the Primary Responsibility for the Quality of Subtitles

Who is the most responsible for the quality of subtitles?

106 responses



Source: author's own elaboration

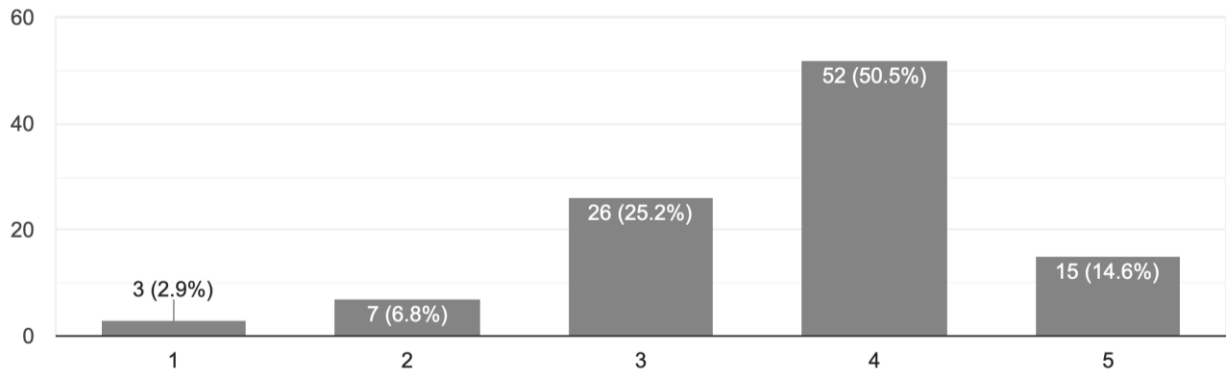
Subtitlers were also asked in an open question what they believed defines quality subtitles, the same as all other stakeholders. One participant of the survey was quite concise stating that quality subtitles are “flawless subtitles,” while others reiterated the importance of grammatical correctness, invisibility of subtitles, as well as technical perfection. “Readability” was by far the most used word, and three subtitlers stressed the need to follow the client’s guidelines in order to achieve quality. National guidelines were not mentioned at all. The following answer sums up best what most subtitlers expressed in their answers to this question. According to this subtitler, quality subtitles are: “readable, accurate, fluent and consistent.” Asked about whether their clients do enough to ensure quality, most subtitlers didn’t give straightforward answers, stating that it depended on the client, and that it is not always consistent, but there were also those who believed that too much freedom is given to QC-ers in deciding the final version of the subtitle file. Some subtitlers also stressed that their clients only QC high-profile materials, while other less prestigious materials are just left to fall through the cracks. A large majority of subtitlers would prefer to have their work proofread, 82.9% believe QC of their subtitling work is indispensable, and 11.4% don’t believe QC is needed at all. A couple of subtitlers stressed that they don’t mind the QC process if it’s performed by a true language professional, but they don’t think technical QC of subtitles only is necessary. Several subtitlers deem that a thorough proofreading is enough. Subtitlers were then asked to rate the overall quality of QC and proofreading of their work, on a

scale from 1 to 5, whereby 5 is top rating, and the answers are illustrated in Figures 8 and 9 below. Three subtitlers didn't answer that question.

Figure 8.

How Subtitlers Rate the Overall Quality of Proofreading of their Work

How would you rate the overall quality of proofreading of your work
103 responses

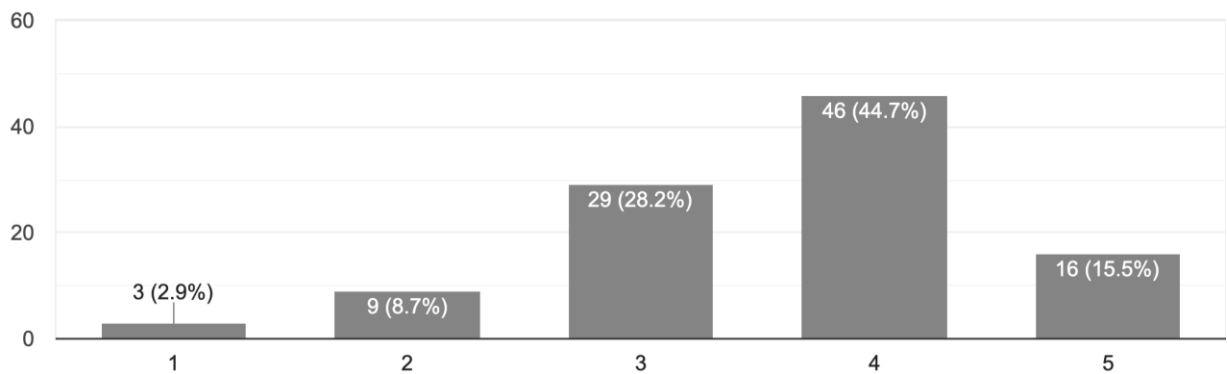


Source: author's own elaboration

Figure 9.

How Subtitlers Rate the Overall Quality of the QC of their Work

How would you rate the overall quality of the quality control of your work
103 responses



Source: author's own elaboration

The final, open, question about whether they wanted to add anything about the quality control of subtitles revealed the variety of QC and proofreading practices. The need for objectivity in QC practices was pointed out by some, while some didn't see the difference between QC and proofreading. The need for clients more carefully selecting their pool of QC-ers was also pointed out by some subtitlers. Fifty-seven subtitlers said they also worked as QC-ers, who are the next group of stakeholders whose thoughts on quality of subtitles are presented in the following section.

4.1.4. Quality Controllers

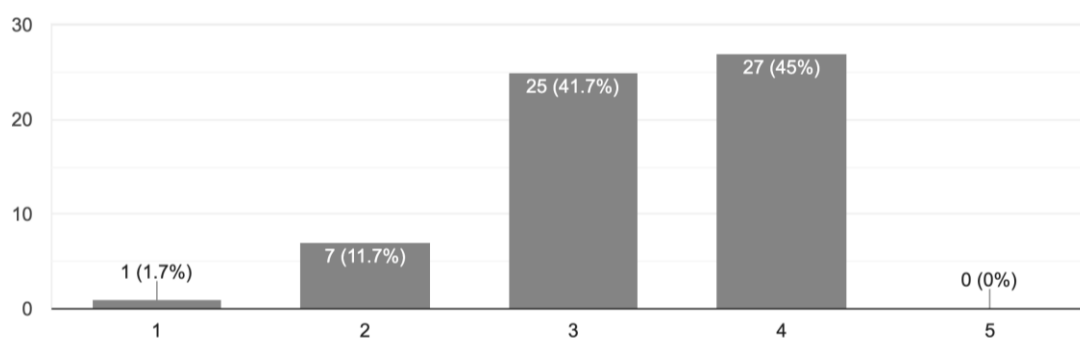
Fifty-seven of 60 quality controllers who participated in the survey also work as subtitlers and have also filled in the part of the questionnaire aimed at subtitlers. Only three QC-ers stated that they didn't work as subtitlers. All QC-ers were asked how they would rate the overall quality of subtitles they QC, the average grade given was 3.3 on a scale from 1 to 5 where 5 is the best rating, with the distribution seen in Figure 10.

Figure 10.

Quality Controllers' Rating of the Subtitles They QC

How would you rate the overall quality of translations you are QC-ing?

60 responses



Source: author's own elaboration

A total of 76.7% of QC-ers, a similar percentage to the subtitlers' group, answered that subtitlers were primarily responsible for the quality of subtitles. Only 3.3% believe it is the QC-er who is the most responsible, 13.3% stated it is the broadcaster, and 6.7% the vendor who carries most responsibility.

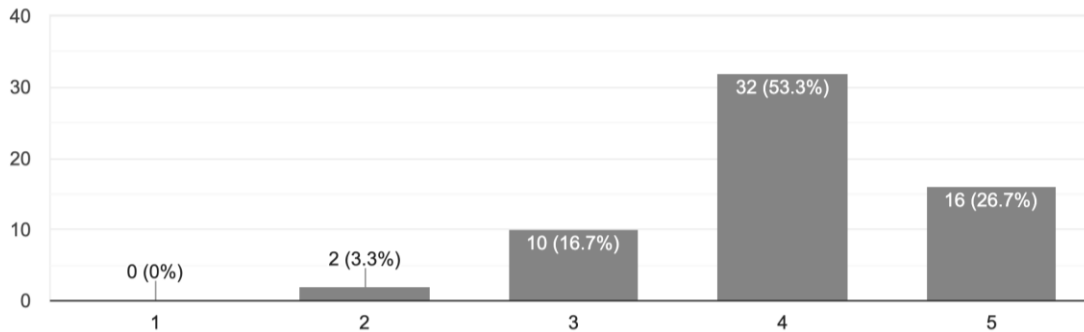
Quality controllers were also asked to rate their overall contribution to the quality of subtitles, on a scale from 1 to 5, and the majority, 77%, rated their contribution with 4 or 5 out of 5, where 5 is the highest score, as seen in Figure 11 below.

Figure 11.

Quality Controller's Rating of Their Contribution to the Quality of Subtitles

On a scale from one to five, how would you mark your contribution to the overall quality of subtitles you work on?

60 responses



Source: author's own elaboration

Assuming that deadlines may play a role in the quality of QC performed, these participants were asked about the deadlines they get for QC and if they were satisfactory, only a third answered with a definite yes, while the rest stated that the deadlines were too tight or that they depended on the client. The QC-ers were also asked, in an open question, about whether vendors or broadcasters value their contribution to the overall quality of subtitles. Only 12 out of 60 QC-ers answered with a definite yes to this question, while others gave more detailed answers in which they mostly stated that their contribution is sometimes valued, and sometimes not, with the following answer by a QC-er reflecting the tone and content of around a third of the answers: "Quality control of subtitles has been underestimated. The industry doesn't always see it as something fundamental." QC-ers were asked about what constitutes quality subtitles. The majority answered that good subtitles are those that are technically and linguistically correct, easy to follow, devoid of any mistakes, similarly to all other stakeholder groups.

4.1.5. Proofreaders

Only eight proofreaders participated in the survey, and 6 of them also work as subtitlers and QC-ers. All of them confirmed that they watch the video too and do not solely read the subtitles they proofread. The average grade they gave to the quality of subtitles they proofread was 4.25, which is better than the grade given by the QC-ers (see Section 4.1.5.). Proofreaders also pointed out that good subtitles are those that are grammatically correct, but also technically correct. A proofreader answered: "Quality subtitles are those that after watching the video, we get a feeling that the characters were actually speaking those subtitles out. Quality means sounding natural". I will now further analyse these findings and offer some concluding thoughts.

5. Discussion and Conclusion

We have seen how various stakeholders conceive of quality subtitles and the quality control process in this survey. We have established that as far as subtitlers and QC-ers are concerned, more than two thirds of them deem quality to be the responsibility of subtitlers, although at the same time QC-ers see their contribution to the overall quality of subtitles to be significant. Almost all QC-ers who participated in this survey are also subtitlers. Let us repeat the two main hypotheses and see whether they have been confirmed.

- a) Stakeholders have differing understanding of the “quality” of subtitles.
- b) Stakeholders have varied opinions about who is the most responsible for the quality of subtitles.

As regards Hypothesis a), it has been established that stakeholders do not have significantly different opinions about what constitutes quality subtitles. According to Robert and Remael (2016), vendors and broadcasters/streamers focus on quality more as a process (cf. Robert & Remael, 2016), and subtitlers focus on subtitles more as a product. However, from the answers obtained in this survey it is clear that all stakeholders put equal emphasis on the technical and linguistic parameters of subtitles, with “readability” being the most frequently mentioned word in connection to the quality of subtitles.

When it comes to Hypothesis b) concerning which stakeholder carries the largest part of responsibility for the quality of subtitles, the opinions do diverge, which is not entirely surprising since stakeholders view quality and quality control of subtitles from different points of view. Even though subtitlers and QC-ers are almost unanimous when it comes to their assessment that it is subtitlers who are the most responsible for the quality of subtitles the limited number of LSPs’ and broadcasters’ employees who have participated in this survey, divide the responsibility between QC-ers and subtitlers, and also because LSPs and broadcasters perceive the creation of subtitles as a process, they are aware of the role that various stakeholders play in the quality control of subtitles.

The analysis of open questions paints a more complex picture. Subtitlers have different experience as regards QC processes depending on the vendor or broadcaster they work for, and it is clear that not all LSPs and broadcasters/streamers put equal stress on quality. Eighteen subtitlers have clearly stated that QC processes, including whether they exist or not, depend on the client. Subtitlers, even though they are mostly aware of the need for some sort of review of their work, are largely unhappy if QC-ers are those who have the final say and approve the final version of the subtitled file. This dissatisfaction largely comes from the practice in some LSPs of hiring less experienced subtitlers for QC tasks, or not offering enough training to QC-ers. The dissatisfaction may also come from the very nature of revising translations. QC-ers may misinterpret client instructions regarding technical parameters, mark subjective changes as objective, create typos, and indeed objective mistakes. Furthermore, client instructions to both QC-ers and subtitlers may not always be clear enough. For instance, what constitutes an unnatural-sounding translation may be interpreted in more than one

way (for more on this see Deryagin, 2021). More research is needed on this topic among broadcasters and streamers in order to establish the scale of this practice, as well the study of LSPs and how they select their QC-ers and proofreaders, whether they are experienced subtitlers or not, since subtitlers expressed negative views about the case where the QC-er is an inexperienced professional. Even though I assumed that proofreaders do not watch the video while proofreading subtitles, which was quite common a couple of decades ago, this practice is largely abandoned, according to the findings of this study.

The limitations of this study are largely connected to its form, time-constraints and the number of participants in some groups of stakeholders. The most obvious issue with asking anyone to assess the quality of a product, service or process is that they are going to give their opinion, their take, perception of things. The same can be said for this study. What we have examined is the stakeholders' perception, and a research project needs a significant number of responses in order to get as good an insight as possible into the research topic. Given that the time available for conducting this survey was quite limited, the number of responses received from subtitlers and QC-ers exceeded my expectations. I expected more proofreaders to come forward and the number of responses by LSPs and broadcasters/streamers was largely expected, even though additional interviews with some of them could have shed a better light on their QC processes, which may be a subject of another study.

Since the findings reveal that some clients do not pay a lot of attention to quality control, I would like to make a set of proposals for stakeholders who experience issues in the QC process, based on the answers to open questions in this survey.

- a) Broadcasters/streamers should carefully monitor QC processes of LSPs they hire to produce their subtitles for them.
- b) LSPs should always hire experienced subtitlers to perform QC.
- c) Subtitlers should have a say in the final version of their subtitle file, post-QC.
- d) If possible, both proofreading and QC of the subtitle file should be performed in order to ensure maximum quality.

Recommendation a) is based on the answers given by some subtitlers and QCers about the variation in approach to quality control in some LSPs and broadcasters. Recommendations b) and c) are motivated by the subtitlers' claims in this questionnaire that their subtitles are at times QC-ed by less experienced subtitlers. This claim is indeed worthy of further exploration. However, LSPs and broadcasters may be reluctant to reveal this sort of information. Recommendation d) comes from the assumption that proofreading involves a readthrough of subtitles, for instance in MS Word, and QC involves a full technical and linguistic check in subtitling software against the video. A readthrough of subtitles allows better concentration on the text itself. The QC of subtitles in subtitling software, because it is cognitively more demanding than proofreading, sometimes prevents the QC-er from spotting issues such as invisible typos or less idiomatic structures and ungrammatical sentences. In other words, subtitles may be read at a slower pace in a readthrough in MS Word than during QC in subtitling software. For instance, in the case of sentences that spill over three or more subtitles, a

missing comma needed in front of a relative clause may be difficult to spot during QC since the QC-er may be focussed on fixing the reading speed violation, subtitles not timed to shot-change and an unidiomatic translation, all at the same time. During proofreading, the cognitive load is not as high, and the proofreader has a better chance of spotting the missing comma.

Further studies of the perception of subtitles, and what quality means, are needed, in particular by studying those who consume them, the viewers. For instance, a study of how viewers react to common mistakes in subtitling that are sometimes omitted in QC, such as spelling and grammar issues, would be informative for everyone involved in the production chain of subtitles, especially which of these mistakes are the most disruptive for viewers. It is also not clear whether sticking to at times strict rules imposed by clients regarding subtitle timing in relation to shot changes, sometimes even by going over the allowed reading speed, is beneficial for viewers and whether it allows non-disruptive reading of subtitles. However, reception studies are notoriously difficult to carry out, they are costly and study subjects are difficult to find. As part of a larger EU-funded project, Szarkowska et al. (2020) studied viewers. However, their study was focused on speakers of Polish, Hungarian and English only. More studies are also needed in traditionally subtitling countries, and given the cost and complexity of such studies, researchers will need to apply for well-funded projects in order to conduct them. Studies of quality control processes in subtitling are surely going to occupy the minds of AVT researchers in the future, as well as the minds of stakeholders who participated in this study.

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