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User-Centred Subtitling: Usability as an Assessment and Process Framework for Interlingual Subtitles

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Abstract

The audience's perspective is often prominent in evaluating subtitle quality, with concepts such as readability being used as assessment criteria. In audiovisual translation research, reception studies have become a visible presence. Understanding the audience is thus clearly central for both research and practice, but information on actual audience preferences does not always filter through to subtitling practice or to quality assessment. Therefore, there seems to be a need for a model that could support the existing audience orientation and make the audience's perspective a consistent consideration throughout the subtitling process. This article proposes the concept of *usability* as a framework for an audience-oriented view of interlingual subtitling. The article introduces the usability-based *user-centred translation* (UCT) model and discusses how it could be applied to subtitling practice. In addition, it explores the differences and similarities between UCT and existing practices in the media localisation industry. This comparison aims to demonstrate how UCT could be implemented in the industry, what added benefit it might bring in comparison to current practices, and how it could fit into existing workflows.

Key words: audiovisual translation, subtitling, usability, user-centred translation, audience.

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Introduction

In quality assessments of interlingual subtitles, the audience perspective is often prominent. This is understandable, as subtitles are a complex text type that appears in a dynamic multimodal environment, requiring viewers to focus their attention on sounds, images, translation and possibly even the source-language dialogue simultaneously (Gambier, 2018, p. 50). Aspects of subtitling, such as timecoding, segmentation and linguistic choices, are often assessed in terms of readability or the audience's ability to follow the subtitles effectively. Therefore, the perspective of the audience is integral in the evaluation. In the FAR model proposed by Jan Pedersen, readability, or "how easy the subtitles are for the viewer to process", is one of the three elements of evaluation (Pedersen, 2017, p. 217). Pedersen (2017, p. 215) calls his model "viewer-centred" as it is based, in part, on findings from reception research. Similarly, Alexander Künzli (2021, p. 331) has proposed a tripartite quality model, "the CIA Model of Subtitle Quality", where the second element is intelligibility, i.e., the viewers' perspective. Künzli (2021, p. 332) speculates that professional subtitlers may place a higher emphasis on intelligibility than other translators, which suggests that the audience's successful interaction with the translation is a particularly important consideration in subtitling. His model culminates in the supposition that if all quality criteria are met, viewers will experience a feeling of flow when watching the subtitled programme (Künzli, 2021, p. 334). Thus, the viewers' experience is used as the ultimate criterion for subtitle quality.

In recent years, viewers themselves have also taken a more active role in determining what is acceptable quality. Chiara Bucaria (2023, p. 333, 337) proposes that by voicing their opinions on social media and other online platforms, some viewers have gained a "sense of agency" and are influencing media localisation practices on streaming platforms, as some distributors are listening to the audience's criticisms. Bucaria (2023, p. 343) even goes so far as to call viewers and fans "gatekeepers" whose role "global providers of audiovisual material can no longer afford to disregard." The role of the audience in determining audiovisual translation quality is thus becoming more important, and content providers need to be informed of the audience's views.

The importance of the audience can also be seen in the prevalence of audience and reception research within audiovisual translation studies. As Frederic Chaume (2018, p. 53) points out, since the 2010s, we have seen an "unstoppable introduction" of cognitively focused research, where research on audiences is one dominant topic. Reception research is valued for "providing significant and stimulating insights into the world of the receivers, their preferences and needs" (Di Giovanni & Gambier, 2018, p. x), as it helps explain how viewers deal with the complex viewing situation they encounter with translated audiovisual materials. However, the information produced by research does not always filter through from academia to practice, and it is unclear whether the audience focus in quality assessment is generally founded on empirical data. Therefore, the subtitling field and the media localisation industry could benefit from a model that systematically integrates the audience's perspective into translation and assessment processes.

In this article, I propose the concepts of *usability* and *user-centred translation* (Suojanen et al., 2015) as a way to enhance audience orientation in interlingual subtitling. User-centred translation (UCT) is defined as a translation process where "information about users is gathered iteratively throughout the process and through different methods, and this information is used to create a usable translation" (Suojanen et al., 2015, p. 4). This article will argue that subtitles are a good example of a translation for which usability is a relevant consideration and that UCT could be used as a framework for the subtitling process and for evaluating subtitles. Although the focus here is on interlingual subtitles, many of the ideas are also relevant to intralingual subtitling, and with some modifications, the model presented here could be applicable to intralingual subtitling projects.

1. Usability and Subtitles

Usability is a concept known primarily from software design and engineering. An ISO standard defines usability as "the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction, in a specified context of use" (International Standards Organisation, 1998). Although it has traditionally been applied mostly to software, interfaces and physical products, it is possible to think of texts as something their readers use to achieve a goal. For example, user instructions help their readers learn how to use a product, texts in online stores allow customers to make purchases, and administrative texts facilitate the performing of official functions or fulfilling legal requirements. Usability is, then, a means of assessing how well such texts serve their purpose.

Interlingual subtitles can be thought of as texts that are used to achieve a specific goal. They are not read as independent texts; they are a means for understanding the programme as a whole (Tuominen, 2018, p. 83). In the context of translation theory, the word "goal" could be replaced with the word "function". As Christiane Nord (1997, p. 138) explains it, "function" in functionalist translation theories means "[t]he use a receiver makes of a text or the meaning that the text has for the receiver." Following that definition, subtitles have an overarching function of helping the viewer understand the programme. To serve this function, subtitles must follow strict technical norms and guidelines in order to fit into their audiovisual context and to be readable in the constant flow of the programme (Díaz Cintas & Remael, 2021, p. 4). Viewers follow subtitles and the rest of the programme simultaneously, and they must constantly decide how to use the subtitles to help them understand the programme. For example, they must decide how to focus their attention between the subtitles and other information sources that are intertwined in the programme, such as sounds and images, and how to use the various information sources in combination to make sense of the overall message. In sum, reading subtitles is a goal or function-oriented activity which takes place in a dynamic audiovisual context. Usability is, therefore, a relevant consideration that can help determine the characteristics that subtitles must have in order to serve their function.

A few previous studies take usability as a frame of reference for translations. For example, Jody Byrne (2006) has explored usability as a tool in translating technical documentation, Stephen Doherty and

Sharon O'Brien (2014) employed usability as a framework for investigating users' experiences with raw machine-translated technical documentation, and Leena Salmi (2003) has tested the usability of multilingual software documentation. These examples demonstrate that usability can be a relevant consideration for translations, and it can be used to assess them.

However, the above examples involve texts of a technical nature. In audiovisual translation, usability remains a marginal consideration. How, then, could usability be applied to audiovisual content, and to subtitles in particular? If subtitles are seen as a text which serves the function of helping viewers follow the programme, usability could be established as a benchmark to assess whether they fulfil that function. It may be helpful to operationalise the concept of usability by breaking it down into more clearly defined components that provide tangible and applicable usability criteria. Jakob Nielsen (1993, p. 26), a pioneer of usability research, lists five attributes for the usability of systems:

- Learnability: "The system should be easy to learn".
- Efficiency: "The system should be efficient to use".
- Memorability: "The system should be easy to remember".
- Errors: "The system should have a low error rate, so that users make few errors during the use of the system".
- Satisfaction: "The system should be pleasant to use".

These characterisations may not initially seem relevant to subtitles, because they require active completion of tasks by the user, as opposed to the externally more passive experience of viewing and understanding a subtitled programme. However, if we see subtitle reading as a complex procedure that requires sophisticated cognitive processing and decision-making, these criteria can become useful with slight redefinitions and added contextualisation (see also Tuominen, 2016, pp. 35–36 for an earlier version of this categorisation).

While *learnability* traditionally means that it should be easy and quick for a novice user to learn how to use a system (Nielsen, 1993, pp. 27–28), in the case of subtitles, learnability could mean subtitles that have been formulated and segmented so clearly and consistently that they are easy to follow, even for someone who is not used to subtitles. In other words, viewers will be able to quickly learn how to use such subtitles to support the viewing experience. Easily learnable subtitles will not require the viewer to spend effort on working out how the subtitles construct meaning, and they allow the viewer to become immersed in the programme or experience a sense of flow, which Künzli (2021, p. 334) describes as "[t]he degree to which a person is able to become absorbed by a plot, focusing attention on eliminating all distractions and lose track of time". Factors that may affect subtitle learnability and, thus, flow include timecoding, segmentation and the use of typographic elements such as italics and punctuation.

Efficiency is a characteristic of systems that allows experienced users to use them quickly and reliably (Nielsen, 1993, pp. 30–31). In subtitle use, efficiency could mean that reading the subtitles does not occupy too much of the viewer's time, attention and cognitive resources (see Díaz Cintas & Remael,

2021, pp. 118–119, 146), so that the viewer is able to focus sufficient attention on other elements of the programme. Experience may make a difference when viewing subtitled content, as experienced viewers may be less likely to focus heavily on reading the subtitles, because they have developed viewing strategies that allow them to switch their attention between different information sources and only read the subtitles quickly and superficially (see Szarkowska & Gerber-Morón, 2018, p. 27; Tuominen, 2012, pp. 275–276). Efficient subtitles would facilitate this kind of attention shifting. In other words, efficient subtitles would be concise, effortless to read and easy to understand immediately.

In Nielsen's (1993, p. 31) definition, *memorability* means that it is easy for a casual user to recall how to use a system when returning to it. Nielsen (1993, p. 31) also points out that memorability is closely linked with learnability, and the same system characteristics can affect both. Since a single set of subtitles is not typically used repeatedly, this attribute requires modification. We could think of subtitle norms and conventions as a recurring element that a viewer can remember from one viewing experience to the next. As Díaz Cintas and Remael (2021, p. 119) remark, "through repeated exposure to subtitled programmes, most viewers would have internalized some of the defining features of subtitling and might be puzzled when noticing departures from the assumed norm." Such puzzling departures would indicate a lack of memorability, while the internalisation of typical features is what leads to memorability when subtitles adhere to these features. Following norms and conventions thus means that subtitles contain recognisable patterns that help the viewer manage the task of viewing subtitled content. The subtitles meet the viewer's expectations and have a familiar feel. For example, local conventions may differ on how the change of a speaker within a subtitle is indicated, and if subtitles follow the conventions that are familiar in a particular location, viewers should be able to follow the turn-taking comfortably. Further examples of established local norms and conventions can be found in documents of subtitling standards or guidelines published by subtitlers' associations (see Audiovisual Translators Europe, n.d.).

The expectation of memorability does not mean that subtitles would only be crafted for viewers who have previous experience with subtitled content or that viewers should know all subtitling norms and rules by heart. In order to support usability, the norms should be intuitive enough to be both easy to recall and easily learnable for a novice viewer. Some findings in reception research indicate that viewing subtitled content may be easier and more pleasant to experienced viewers than to novices (Perego et al., 2016, p. 223; Szarkowska & Gerber-Morón, 2018, p. 27). Such findings suggest that memorability is indeed a factor in using subtitles. They also indicate that it is worthwhile to consider how subtitles can be made as learnable as possible so that the difficulties for novice viewers can be minimised. Ideally, the same norms would support both learnability and memorability. The perspective of memorability simply complements learnability with the idea that consistent adherence to the same norms and conventions ensures that the viewer does not need to learn different practices for every viewing occasion – even if those practices would be easily learnable – and that it is possible to develop a sense of familiarity with subtitles. Learnability and memorability are two different perspectives to usability, and it is important to consider them both. Being reminded of both the novice's and the repeat user's perspective makes it clear that there are different kinds of

users and different scenarios in which subtitles must serve their function. Usability assessments should account for this variety of use scenarios.

In the case of interface or system usability, *errors* tend to refer to the user's actions: instances where the user is using the system incorrectly or "any action that does not accomplish the desired goal" (Nielsen, 1993, p. 32). With subtitles, it would be logical to link this attribute to errors in subtitles, as traditional quality assessment models might propose. However, from the perspective of usability, not all translation shifts or even mistranslations are relevant, if they do not present a usability problem. The usability of subtitles is compromised when they contain elements that lead to misunderstandings and interruptions in the viewing process. For example, an uncommon word in subtitles may compel the viewer to stop and think about what the word means and stall the flow of viewing (Tuominen, 2012, pp. 279–280). This can affect the viewing experience, even if there is no mistranslation, and could, therefore, be characterised as an error in the usability sense. On the other hand, if a mistranslation goes unnoticed and does not affect the viewer's interpretation of the scene, it does not genuinely become an error in terms of usability (Tuominen, 2012, pp. 278–280).

Satisfaction refers to the subjective sense of a pleasant user experience. This characteristic is easy to see as an element of subtitle usability. Even though the function of subtitles is to support programme viewing, and they do not function as a source of enjoyment on their own, the objective of the entire viewing experience is often to feel satisfaction or enjoyment. Subtitles, therefore, act as one vehicle for this satisfying viewing experience. Nielsen (1993, p. 33) also remarks that satisfaction is a particularly important usability attribute for systems where "entertainment value" is central, which is certainly applicable to a great deal of subtitled media. Satisfaction is highly subjective, and it can be difficult to assess, but some criteria can be proposed. For example, viewers do not experience satisfaction if humour is absent from the subtitles of a comedy. Furthermore, any problems with the previous four usability elements may lead to feelings of frustration or confusion that diminish satisfaction.

In sum, the different aspects of usability can be repurposed to describe elements of the viewing process. These factors can work as a foundation for user-based assessments of subtitles. To provide an even more practical framework for creating usable subtitles, we can apply the model of user-centred translation, where these usability elements are used to inform different steps of the subtitling process and to formulate UCT tools that can be applied during the process.

2. UCT and AVT

The concept of *user-centred translation* was proposed by Tytti Suojanen et al. (2015) as a model for translation projects and as a set of usability tools that can be applied in various contexts of translation. Aspects of the UCT model have since been explored in other publications introducing both research and practical applications (see, e.g., Hirvonen et al., 2023; Koskinen, 2020; Oittinen & Ketola, 2014; Suojanen et al., 2016; Suokas, 2022). Some researchers have also proposed UCT as a

valid framework for audiovisual contexts. For example, Minako O'Hagan (2019, pp. 153–154) advocates for a UCT approach in game localisation, stating that "UCT can make a significant contribution to the study of modern video games as immersive digital environments" and promoting a UCT perspective in quality assessment and training. Similarly, Carme Mangiron (2018, pp. 278–279) aligns game localisation with UCT because localisation is "a functional type of translation that aims to provide a gameplay experience for the players of the target version that approximates the experience of players of the original version." Alexey Kozulyaev (2020, p. 160) describes a model for teaching audiovisual translation where one of the five key elements is UCT and audience analysis, suggesting that the target audience's viewing experience is a crucial factor in audiovisual translation and that audience analysis should be taught to future audiovisual translators (Kozulyaev, 2020, p. 163). However, UCT could be applied even more holistically to audiovisual translation. In this section, I will introduce the UCT process and explore how it could work in a subtitling context.

UCT is structured around a process model that situates various usability tools at different stages of a translation project. The model is iterative, i.e., cyclical, so that information collected on users during the translation project will be fed back into the process in order to fine-tune translation strategies and improve the usability of the translation before it is completed (Suojanen et al., 2015, p. 3). The usability of the translation is thus being assessed throughout the process and not only after the translation is finished. Furthermore, the data and experiences from each translation will be collected and fed into future projects so that they will produce even more usable translations.

The UCT process begins with the client and the translation service provider, i.e., either a translator or a translation agency, drawing up a *specification* which determines key aspects of the translation task, including the way in which usability criteria are defined for the translation (Suojanen et al., 2015, p. 5). The specification is reminiscent of the translation brief of functionalist translation theories (Nord, 1997, p. 30), and it can determine the intended target audience, context of use and other practical factors which will influence how usability is conceptualised. The specification can also clarify which usability characteristics will be prioritised when various considerations must be weighed against each other. For example, efficiency and satisfaction may be the most crucial characteristics in film subtitles, while the subtitles for lecture videos or webinars may place more importance on other aspects of subtitle usability, such as error prevention through an accurate rendition of all of the information, even at the expense of optimal efficiency in some instances.

Once the specification is completed, the translation task begins with the construction of *mental models* which outline the characteristics of the target audience and explore how the text addresses its users (Suojanen et al., 2015, p. 5). Suojanen et al. (2015, p. 61) propose three types of mental models: *personas*, *intratextual reader positions* and *audience design*, all of which could be adapted for subtitling (for more on mental models, see Suojanen et al., 2015, pp. 61–74; see also Mason, 2000 for a previous application of audience design to translation). For example, personas are fictional archetypes of the expected users of a translation (Suojanen et al., 2015, p. 70). In addition to defining characteristics of these expected users, personas can help make sense of the context of use, i.e., "how, why, and where these individuals will use a given communication design product" (Getto & St.

Amant, 2015, p. 30). Personas can thus be constructed to represent the target audience and viewing context, and specific decisions on the subtitles can be made to suit those personas. Decisions can include matters such as optimal reading speed, translation strategies for cultural references, and decisions on the placement and appearance of the subtitles.

Once a draft of the translation has been completed, the UCT model proposes the use of *heuristic evaluation* or expert evaluation to eliminate as many usability issues as possible. The evaluation is conducted with the help of *heuristics*, a checklist of usability principles, against which the translation – or subtitles in this case – is assessed (Nielsen, 1994/2024; Suojanen et al., 2015, p. 5). While the term "heuristics" has not been widely used in the context of translation, the concept is reminiscent of style guides and quality checklists, which are often used in the media localisation industry (Díaz Cintas & Remael, 2021, p. 47; Robert & Remael, 2016, pp. 594–595; 597–598). Pedersen's (2017) FAR model and Künzli's (2021) CIA model also offer comprehensive lists of quality considerations that can be used to assess subtitles. The key difference between existing assessment models and usability heuristics is that heuristics are compiled with usability as the primary consideration, so the items to be assessed all represent various usability principles. Suojanen et al. (2015, pp. 89–91) have proposed a set of tentative usability heuristics for translation that could be further fine-tuned to cater to subtitling (see Tuominen, 2024 for a draft proposal on subtitling heuristics). For example, the heuristics by Suojanen et al. (2015, p. 90) include an item on legibility and readability (on legibility and readability, see also Suojanen et al., 2015, pp. 49–50), which is relevant for subtitling, but it could be complemented with subtitling-specific questions related to the cognitive load and efficiency of watching subtitled media.

After heuristic evaluation, the UCT model suggests involving actual users in assessment through *usability testing*. In a usability test, a small number of users belonging to the target group perform tasks that examine the usability of the product (Rubin & Chisnell, 2008, p. 21; Suojanen et al., 2015, p. 94). In the case of subtitles, these tasks might include describing plot points or characters or following the instructions of an educational video. In addition, usability testing may include elements such as eye tracking and think-aloud protocols (see Suojanen et al., 2015, p. 94) that may pinpoint aspects of the subtitles which are difficult for the viewer to process and which contradict some usability attributes. Usability testing has had little presence in translation studies so far, but there are some relevant studies, such as Leena Salmi's (2003) test on technical documentation and an experiment by Juho Suokas et al. (2015) exploring the applicability of usability testing in an educational context. In the context of subtitling, usability testing has potential as a way of involving actual users and solidifying the focus on usability. Some of its methods resemble reception research, which is a familiar presence in audiovisual translation studies, so there are academic models that can be used to develop a workable usability testing scenario. Further research and experimentation are, however, needed to determine the exact research design that is suitable for testing the usability of subtitles. Pilot testing might explore, for example, how many test participants are needed to provide sufficient information about subtitle usability, whether it is possible to observe viewer reactions as a reliable reflection of usability, and what kinds of think-aloud tasks test participants could perform.

As was mentioned above, the prominence of reception research in audiovisual translation studies has foregrounded the importance of the audience, or users, in audiovisual translation. *Reception research* is also included in the UCT model as a way to gather additional usability data in the actual use context, after a translation has been published (Suojanen et al., 2015, p. 6). Hence, reception research on subtitles can be used as an element of UCT to increase stakeholders' understanding of viewer preferences, and this information can be used in future projects. For example, it can help fine-tune mental models to ensure the selection of suitable translation strategies or develop effective heuristics. Another way of feeding information from one project to the next is *post mortem reporting*, i.e., collecting information and experiences from a project and learning lessons for future projects (Suojanen et al., 2015, pp. 5–6). Such reporting could make use of various feedback processes and communication channels that exist in the media localisation industry. Once a project has been completed, the subtitled programme can also be evaluated by checking whether it meets the usability criteria laid out in the specification at the beginning of the project. This step allows all stakeholders to assess how successful the project has been in meeting its initial objectives (Suojanen et al., 2015, p. 5).

As some stages of the UCT process, particularly usability testing and reception research, involve actual users, data protection and ethical considerations are of crucial importance. Exploring the reactions of actual users must be done in a transparent way and only with the users' consent, and data must be anonymised before it is used to inform the translation process. It is important to build consistent practices of transparency, informed consent, and rigorous data protection into UCT, as well as limit data collection to aspects of the viewing experience and user characteristics that are directly relevant to usability. Reception research can provide useful models for ethical considerations that are relevant in the context of usability.

While all aspects of UCT are proposed for any translation project, some of them have particular potential for subtitling. Considerable amounts of data are already being gathered on the viewing of various audiovisual products, and as long as rigorous ethical practices and data protection principles are being followed, that data could be used in UCT projects to fine-tune UCT tools and to determine appropriate usability criteria. As texts appearing in a digital medium, audiovisual translations lend themselves to the use of technological and automated tools for gathering information on their use. Furthermore, the media localisation industry already employs many practices that are close to tools proposed by the UCT model, and it could be plausible to modify them into a usability mindset. Such practices include style guides resembling heuristics; norms, automated checks and technical specifications based on readability recommendations; and the presence of plentiful reception research. Finally, as Chiara Bucaria (2023, p. 345) points out, audiovisual translations receive considerable interest and feedback from their audiences, but that feedback has been initiated by the viewers' complaints instead of being systematically elicited to improve the product during the translation process. UCT could thus harness this existing interest to serve the media localisation industry more efficiently and avoid the negative publicity of critical audience feedback after release.

3. Applying UCT in the Media Localisation Industry

The UCT model is particularly well applicable to large-scale, recurring projects where it is useful to feed information from previous processes to similar new ones and to coordinate stakeholders' expectations (Suojanen et al., 2015, p. 6). This is a fitting description for the media localisation industry. Projects operated by global media localisation companies tend to be expansive and multilingual, they involve a large number of professionals, and the process is repeated in a largely similar way from one project to the next, often involving similar content. Iterativity and consistent feedback loops that reach all stakeholders would allow practitioners to assess usability, minimise usability problems before the translation is published, and learn from each experience. Adopting a usability perspective could also help companies and practitioners make informed decisions on how best to use technology, such as artificial intelligence tools, to streamline processes in ways that do not jeopardise the audience's experience. By systematically collecting information on subtitle use, companies can refine their instructions and style guides to support the creation of more usable subtitles. As users' interests are often stated as central quality criteria, a UCT approach could ensure that this objective is met.

As an example of how the UCT model compares with industry practices, I will contrast it with a recent description of a commercial subtitling workflow presented in a white paper published by the Iyuno-SDI Group (2022). The Iyuno-SDI Group (currently Iyuno) is one of the largest global media localisation companies, and their process description can, therefore, be taken as a realistic reflection of practices in the field. The most noteworthy aspect of the white paper compared to UCT is that the audience and the function of subtitles receive little attention in it. Most of the discussion focuses on how the process unfolds between the company and its clients or the company and its freelance subtitlers. While this is understandable in a white paper that focuses on the company's production process, it would have been equally possible to foreground the end users of the subtitled programmes as a way to display dedication to successful outcomes, particularly for a company that describes itself as having an "obsession for quality", helping clients "connect with more audiences" and promising to "increase fan engagement" (Iyuno, n.d.). Exploring UCT as an alternative framework for a company such as Iyuno is a logical endeavour, as UCT could be a way to demonstrate a more audience-based view on quality in keeping with the stated values of the company.

A UCT-based process description would look different from the white paper because decisions would flow from the question of how the product can be made as usable as possible. However, many stages in Iyuno-SDI's process do resemble the proposed UCT model, and it would, therefore, seem possible to use UCT tools to complement it. The workflow described in the white paper (Iyuno-SDI, 2022, p. 4) begins with creating a profile, which is similar to a specification. The white paper explains that there may be "up to 50 specification parameters to ensure the deliverables meet the client's requirements." The client is the company or organisation that commissions the subtitles and is usually different from the end users who will watch the programme with the subtitles. This description thus exemplifies the paper's client focus rather than user focus: the parameters are set to meet the client's, not the end users' requirements. However, this description also reveals that the

UCT process and Iyuno-SDI's process share the same starting point, discussing objectives with the client. The user perspective may be present in Iyuno-SDI's specification parameters, but they are not highlighted in this description. The UCT approach could enhance the existing specifications by ensuring that the stakeholders' understanding of the users is taken into consideration and that usability is made a visible presence in the project. In a more user-centred process, the specification or profile-creation phase could also be complemented with the creation of mental models as one tool to flesh out the end users and usability goals, and to frame subtitling strategies with the audience's interests in mind.

After profile-creation, the Iyuno-SDI process moves through various steps of creating the subtitles, ensuring their quality and covering technical aspects of subtitle creation (Iyuno-SDI, 2022, pp. 4–5). Again, the client's interests are emphasised, and the users' perspective is only reflected in a reference to reading speed. It is possible that the quality checking phase of the Iyuno-SDI workflow introduces a user focus into the process. It is not described in detail, so it is impossible to know what criteria are used, but checking quality is likely to include some consideration of how well viewers are able to read and understand the subtitles. Therefore, this step could be aligned with UCT by ensuring that the quality control procedures emphasise usability. For example, subtitles could be reviewed with the help of subtitling-specific usability heuristics. In addition, the white paper mentions a final round of quality control that includes "human review" (Iyuno-SDI, 2022, p. 5). The purpose of this round is described as checking "conformance to the tech specs", which again gives an impression of a client-oriented process where audience or text function is not foregrounded (Iyuno-SDI, 2022, p. 5). In a UCT process, this would be a possible stage for occasional usability testing, where actual audience members are brought in to provide the viewers' perspective and another layer of human review.

One further element of UCT that is absent from the Iyuno-SDI white paper is the idea of iterativity and using information collected during an individual process to inform future projects. It would be possible to rethink the subtitling process as more iterative with minor shifts related to retaining data, reviewing assessment methods and other tools, and, crucially, making information available to all stakeholders. Some iterativity is likely to be present in the operations of a large company such as Iyuno, as they repeatedly work for the same clients on similar projects. Therefore, the iterative model proposed by UCT may not be an alien concept.

Although Iyuno-SDI's process description, as well as a description of their technological resources (Iyuno-SDI, 2022, p. 6), give little attention to end users, viewers are addressed later as the discussion turns to "the truly creative center of the recent debates and discussion around subtitle quality" (Iyuno-SDI, 2022, p. 7). The perspective is on "new" viewers of subtitled content, particularly in the United States, who are starting to encounter more subtitled materials as the linguistic diversity of audiovisual content keeps growing. Iyuno-SDI (2022, p. 7) points out that some subtitling conventions may not be immediately familiar or acceptable to new viewers, and those viewers may criticise subtitle quality because they are unfamiliar with the format. This perspective is opposite to that of UCT, as it implies that the viewers need to educate themselves on how subtitling works. In contrast, in UCT, a central objective is to make content easily and intuitively usable – or learnable – to even

those viewers who have little experience with subtitles. In a usability mindset, the users' criticisms would thus reflect usability shortcomings in the product rather than the user's lack of relevant knowledge. The white paper does eventually give more weight to the user's perspective in the comment that "the subtitle should be judged on its ability to tell the story and keep the viewer engaged and allow them to watch the picture, not just read the dialogue" (Iyuno-SDI, 2022, p. 7). Viewer engagement and ability to follow the programme are logical usability criteria for subtitles, and the white paper, therefore, opens the door to usability-related considerations. It also states that viewer feedback is welcomed (Iyuno-SDI, 2022, p. 7), which suggests some willingness to consider the user's perspective.

What a UCT approach would add to the white paper is a more consistent prioritisation of the users' preferences, including clear definitions of how subtitles fulfil their function, how novice viewers are taken into consideration, and how viewer feedback can be welcomed and used to refine future projects. A UCT approach might encourage companies to frame such documents differently so that the end users' interests are mentioned throughout the process description as a prominent consideration as well as a foundation for quality criteria.

As this discussion shows, users are not a consistent presence in Iyuno-SDI's white paper, which serves as a realistic example of how the media localisation industry relates to end users. However, it also demonstrates that there is potential for reimagining production workflows and communications in a more user-centred fashion. One significant change would be in the standing of subtitlers and other practitioners (such as quality controllers) in the process. UCT works best in a collaborative process where translators can use their expertise to act as the users' representatives (Suojanen et al., 2015, pp. 27–28) and where information reaches all stakeholders. Therefore, translators would need to be included in discussions about usability goals, mental models, and perhaps even larger decisions concerning optimal workflows to serve usability needs. They should be given access to information from previous projects that can increase their understanding of subtitle use and criteria for usability. In a fragmented, network-like field (cf. Abdallah, 2012), where subtitlers tend to work as freelancers, this may not be easy to accomplish, and designing a collaborative process would require changes in mindset.

4. Conclusion: Next Steps for User-Centred Subtitling

This article has explored how usability and user-centred translation could be applied to interlingual subtitling and how they might complement existing practices in media localisation. I propose that a user-centred approach could alleviate some of the challenges the industry is facing. A stronger focus on usability could harmonise quality assessment processes by integrating the audience's perspective more clearly into assessment, thus, offering a shared point of reference for all stakeholders, instead of vague and often subjective conceptions of quality. Furthermore, the fundamental purpose of a UCT approach is to create better, more usable translations that serve their end users well. A perception of poor subtitle quality has the potential to cause public outcry, engender resistance to

viewing subtitled content, and draw negative attention to translators, media localisation companies and content producers (see, e.g., Bucaria, 2023, and the debate on quality deficiencies in *Squid Game* subtitles, Shepherd, 2021). While these problems cannot be eliminated entirely, they could be minimised by creating subtitles that prioritise users and implementing practices that come across as consistently foregrounding the audience's perspective. Finally, media localisation companies could use UCT to distinguish themselves from the competition, and to cater to high-end clients who have the interest and resources to engage in such a process (Suojanen et al., 2015, p. 144). Bucaria (2023, p. 345) also suggests that media companies might benefit from more participatory localisation processes and build a competitive advantage by listening to the audience. UCT could serve this objective.

User-centred subtitling is still far from being a reality in the industry. The industry, academics and individual subtitling practitioners should collaborate to explore how such a model could be implemented in a way that would benefit all stakeholders and how to ensure that it is applied in an ethically sustainable way, safeguarding users' privacy and foregrounding their interests. The UCT model has been conceived in a flexible way: it can be adopted fully to frame the entire translation process, or only some parts of it can be implemented, such as individual tools that best suit the particular context (Suojanen et al., 2015, pp. 144–145). While it is possible to envision an entirely UCT-based subtitling process, adopting only some of its aspects is equally possible. Only practical experience will determine what the best solution might be.

Even with this flexibility, UCT might not suit all contexts. Large content providers may have their own established norms and guidelines for usability-related characteristics such as reading speed, timecoding and subtitle placement, and they may be reluctant to make changes. Therefore, a major initial challenge would be to convince clients and translation service providers to adjust their practices to accommodate usability considerations. A UCT model may also require additional resources and commitment. All participants in the process should have access to information relevant to usability considerations, which may not always be possible. Furthermore, the time required to perform some UCT tasks may limit its applicability in fast-paced projects. In some cases, there may be practical obstacles to gathering information about subtitle use, and ethical considerations or data protection issues may place limits on data collection. Some clients may also resist the idea of media localisation companies researching their end users. Many of these issues can be solved with planning and modifications to the model. Still, many open questions remain, and UCT may not be an answer to all challenges in the industry.

The model and its individual elements should be tested in a variety of real-world contexts to see where it could be a workable solution. In addition, further academic research should be conducted to refine some of the model's components. For example, usability testing has great potential as a way of assessing subtitles, but it has not been systematically applied in that context, and pilot studies are needed to test its viability and to seek optimal study designs. Similarly, heuristics could be adopted as a usability assessment tool for subtitles, but subtitle-specific heuristics should first be developed and tested (see Tuominen, 2024, for an initial draft). The academic context could provide a useful

environment for the early development of these tools before implementing them in the industry. Therefore, academic research could pave the way towards the adoption of UCT, or some aspects of it, in practice. UCT promotes a collaborative approach to translation projects, and broad collaboration could also produce the best possible UCT model to be applied to the media localisation industry. The common thread enabling this collaboration is a shared interest in producing translated audiovisual products that serve their audiences well and lead to successful viewing experiences.

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