Formal Aspects in SDH for Children in Spanish Television: A Descriptive Study

Ana Tamayo[1]

Abstract. The comprehension of a subtitle goes far beyond the understanding of the meaning of the words it comprises. Formal aspects of subtitles for the d/Deaf and the hard-of-hearing (SDH) can be crucial in the cognitive effort necessary to process the subtitle within its audiovisual context (Perego 2008). The present article studies common practices of formal aspects in SDH for children, focusing on three parameters: layout and positioning of the subtitle; orthotypographic conventions; and resources for the identification of characters in the three TV channels dedicated exclusively to the youngest audiences in Spain. The present piece of research was carried out by analysing and evaluating these three parameters in comparison with the current UNE Standard 153010 (AENOR 2012) and with previous theoretical studies in the field.
Keywords: Subtitling; SDH; audiovisual translation; accessibility; children; layout.

[es] Aspectos formales en la SPS televisiva para niños: un estudio descriptivo

Resumen. La comprensión de un subtítulo va más allá de entender el significado de las palabras que lo componen. Los aspectos formales en la subtitulación para personas sordas (SPS) pueden tener una relevancia crucial en el esfuerzo cognitivo necesario para procesar el subtítulo dentro de su contexto audiovisual (Perego 2008). El presente artículo estudia las prácticas habituales que marcan los aspectos formales de la SPS para niños en tres parámetros: el formato y la posición del subtítulo, las convenciones ortotipográficas y los recursos para la identificación de los personajes en las tres cadenas de televisión españolas dedicadas a la audiencia más joven. Este estudio se lleva a cabo mediante el análisis y evaluación de estos tres parámetros en comparación con la vigente norma UNE 153010 (AENOR 2012) y con la revisión teórica de estudios previos.
Palabras clave: Subtitulación; SPS; traducción audiovisual; accesibilidad; niños; formato.

Summary. 1. Introduction: parameters under study. 1.1. Layout and positioning. 1.2. Orthotypographic conventions. 1.3. Identification of characters. 2. Materials and methods. 3. Results and discussion. 3.1. Layout and positioning. 3.2. Orthotypographic conventions. 3.3. Identification of characters. 4. Conclusions. 5. References.

---

[1]   Universitat Jaume I
     tamayoa@uji.es

1. Introduction: parameters under study

Subtitles are a peculiar type of written discourse, as they are conceived to be read only once and at a certain pace, before disappearing. Hence, it seems relevant to try and understand how the reading activity is carried out in order to ascertain the most effective ways of segmenting and presenting this kind of discourse (Perego 2008). Researchers such as Coltheart (1987), Frazier (1987) and Holmes (1987) have proved that the average reader of static texts does not read word by word, but in chunks of words that correspond to syntactic units. However, subtitle reading is quite different to other types of reading, since it requires specific conventions and distribution of text on screen to be read properly (Perego 2008). The special needs of the hearing impaired audiences add specific features to the key role played by layout, orthotypography and identification of characters on screen in order to understand the audiovisual text.

This article aims at analysing and evaluating three parameters that affect the formal presentation of subtitles. To do so, a theoretical review of previous research dealing with the three parameters under study will be carried out. This overview includes an evaluation of the recommendations established by the current UNE Standard 153010 (AENOR 2012), and allows the selection of the variables to be studied under each parameter. Then, real subtitling practice in Spanish TV will be analysed taking into account the theoretical review to draw conclusions on the homogeneity and the adequacy of current SDH practices for the d/Deaf and hard-of-hearing children in Spain.

1.1. Layout and positioning

Within this parameter, the present article addresses six variables, as shown in Table 1.

Table 1. Variables under study within layout and positioning of the subtitle

PARAMETER	VARIABLES
Layout and positioning	Line breaks
	Synchronisation
	Number of lines per subtitle
	Distribution of subtitles on screen
	Layout of subtitles
	Maximum number of character per line

An inadequate line break could lead to a misunderstanding of the message, a difficult processing of the text and, ultimately, to the lack of enjoyment of an audiovisual text. As Perego (2008: 216) points out "phrases could be best processed if presented as homogeneous chunks according to their orderly arrangement". Following this line of thought, Karamitroglou (1998: online) proposes a set of European standards in which he recommends that every subtitle should contain a complete sentence and its lines "should appear segmented at the highest syntactic nodes possi-

ble". The higher the syntactic nodes the segmentation is at, the less cognitive effort is arguably needed to process the information. Image 1 shows that the best case scenario would be that in which every line corresponds to a complete sentence or phrase. Nevertheless, the dynamic nature of audiovisual texts and the technical constraints imposed by the medium do not always allow for such a neat segmentation. According to Karamitroglou's (1998: online) diagram, it can be deduced that only segmentations at N5 and N6 nodes will imply the abrupt division of units of syntactic meaning, which in turn will complicate the viewer's processing of the subtitle. In the present paper, only breaks at N4 nodes or higher will be considered as complete syntactic units.
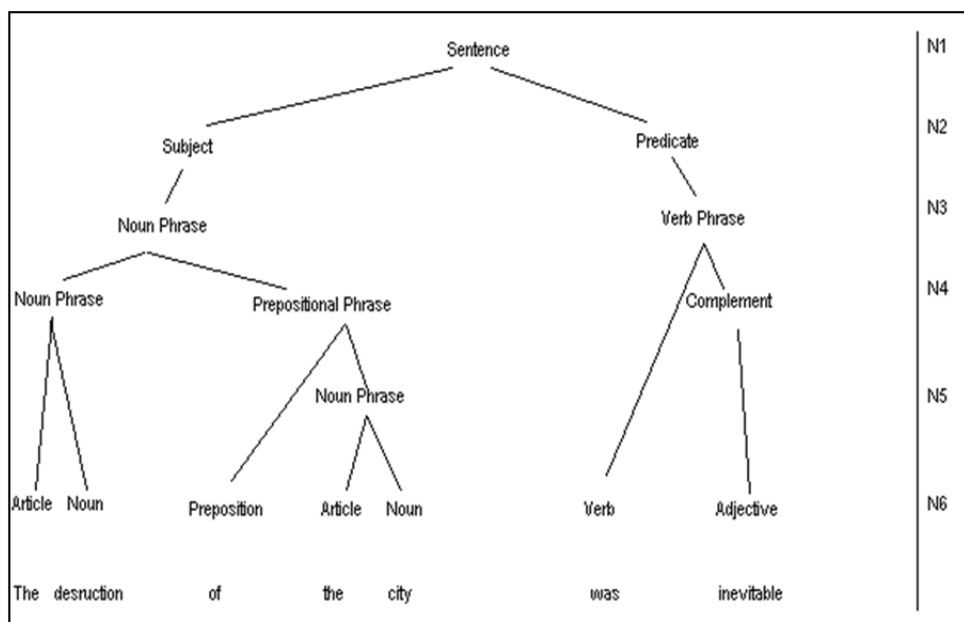

Image 1. Subtitle segmentation by syntactic nodes according to Karamitroglou (1998)

In the field of SDH, the UNE Standard 153010 in Spain pays special attention to the spotting and line segmentation of the subtitles and in its editorial criteria points out four criteria that should be considered:

1) use performers' pauses and silences, […]
2) use grammar pauses or punctuation signs, […]
3) write at the bottom line conjunctions and connectives and […]
4) do not divide noun phrases, verbal phrases and prepositional phrases. (AENOR 2012: 16, my translation)[2]

---

[2]   All quotations from the UNE Standard are the author's translation from Spanish into English, unless otherwise indicated.

Despite all the above mentioned, studies using eye-tracking technology have shown that inadequate segmentation (in Italian) does not necessarily have an impact on subtitle processing, which would seem to suggest that "psycholinguistic concerns about subtitle line segmentation are probably overstated" (Perego et al. 2010: 263). In contrast, recent studies on live subtitling in English point out that, although no significant differences are found in subtitle comprehension irrespective of their line segmentation, eye-tracking data have brought to the fore suggestions that an adequate segmentation of the text can lead to a more constant and natural experience when watching subtitled audiovisual products (Rajendran et al. 2013).

The multimodal nature of audiovisual texts requires different types of synchronisation—between sound and subtitle and between image and subtitle. In the former, subtitles should coincide, generally speaking and whenever other restrictions allow it, with the audible representation of the discourse. This is especially relevant for hearing impaired audiences using intralingual subtitles, since they might make use of subtitles to complete the information they cannot perceive through their residual hearing. As for image and subtitle synchronization, it has been stated that "as a general rule the subtitles should always reinforce the images on the screen" (Ivarsson and Carroll 1998: 73). The UNE Standard 153010 states that "except in the case of live subtitling, the cue-in and cue-out times of subtitles must coincide, when possible, with lip movement, shot changes and verbalization or sound information" (AENOR 2012: 10).

The total number of lines of a subtitle is another variable under study, which has been widely discussed among academics in the field. Although as a general rule it is accepted that the maximum number of lines in interlingual subtitling is two (Díaz Cintas and Remael 2007), there are some discrepancies among scholars and practitioners. In the case of interlingual subtitling, Ivarsson and Carrol (1998) argue that for TV and video (and this applies nowadays to DVD as well) it seems more effective to subtitle using one-liners if possible, while for cinema two shorter lines might be preferred due to the size of the screen. Research conducted by Koolstra et al. (1999: 409) in SDH suggests that two-liners not only require more absolute time to be read, but also more relative time, probably because two-liners are subtitles that tend to have a more complex syntactic and semantic structure. González (2011: 34) points out that the BBC guidelines (2009) advise using one-liners for slow dialogues, which is often the case in audiovisual genres aimed at children. Díaz Cintas and Remael (2007: 86) show their agreement with this point of view but add that some sentences "lend themselves more easily to two-line subtitles than others". Other studies suggest that the higher the word count on screen, the less proportional time is needed to read them (Brondeel 1994). However, some academics claim that a balance should be sought in favour of text dynamism and comprehension (Díaz Cintas and Remael 2007). In the case of SDH in Spain, the UNE Standard only states that subtitles should occupy a maximum of two lines, and in exceptional cases, such as live subtitling, three lines may be used.

As for the debate regarding distribution of the linguistic code on screen, TV subtitles were traditionally often left-aligned but, nowadays, academics advocate for centred subtitles at the bottom of the screen (Díaz Cintas and Remael 2007: 87) because of the minimum eye movement principle—when subtitles are centred the distance the eye must cover to find the second line is always be the same, regardless of the length of both lines. Research carried out by Arnáiz (2015a) seems to con-

clude that centred subtitles, when compared to left-aligned, have better comprehension scores and are spotted quicker, although they take longer to be read.

When dealing with two-liners, the best layout of the subtitle on screen might be sought. In Spain the UNE Standard establishes that "there might be times in which different line segmentations are possible [...]. In those cases, similar line length for both lines within a two-liner is preferred, in which the upper line is shorter than the bottom line. This allows for greater image visibility and improves reading speed" (AENOR 2012: 16).

The maximum number of characters per line is also a variable under study in the present paper. Although each subtitling company has its own preferences, the maximum normally varies between 33 and 41 characters for TV (Díaz Cintas and Remael 2007: 84). In recent years, however, "digital technology has made it easier for most subtitling programs, working now with pixels, to move from characters to proportional lettering, which allows for greater rationalisation of the space available" (Díaz Cintas 2008: 97), since not all letters occupy the same space on screen. Despite this shift, in Spain the UNE Standard keeps using characters per line as a measuring unit and sets 37 as a recommended maximum.

Other formal aspects such as font, colour, outline or size, as well as the use of a black or grey box are also of great importance when dealing with layout and legibility of subtitles (Kirkland 1999; Bernard et al. 2001; Díaz Cintas and Remael 2007; Utray et al. 2010; Arnáiz 2012 and 2015a; Zárate 2014b; Szarkowska and Laskowska 2015) though they will not be discussed in these pages. The main reason is that in teletext SDH, as opposed to digital subtitling, those aspects depend greatly on the decoder used to activate captioning and, when the data was gathered for the present study, two of the three TV channels under study (Boing and Disney Channel) only provided teletext subtitling, while Clan provided digital subtitling, along with teletext subtitling[3]. Having said that, more reception studies with hearing impaired children would be more than welcome, in which different font types, colours, outlines and sizes (Zárate 2014b) as well as the use of different boxes for subtitles (cf. Arnáiz 2015a) would be empirically tested. According to research conducted within the European project HBB4ALL[4], many of these formal aspects will most probably be totally customizable by audiences in the near future (Orero et al. 2014).

1.2. Orthotypographic conventions

Under this category, two variables will be analysed, as can be seen in Table 2. The study of other variables, such as italics, boldface, underlining and capital lettering, would be of great significance in the field of SDH, as there are not many studies focusing on them. Moreover, their use, now at hand with digital television, could be especially beneficial for the hearing impaired audiences (cf. Zárate 2010a, 2014b).

---

[3]   Nowadays, according to the last report of the Spanish Center for Subtitling and Audio Description (CESyA 2014: 52), all three channels provide digital subtitles and Disney Channel no longer provides teletext subtitles. Nonetheless, direct telephone contact with all three channels in November of 2015 points in a different direction. Staff of both Boing and Disney Channel confirmed that, by November of 2015, they only provide teletext captioning in their free DTTV (Digital Terrestrial Television) channels.

[4]   Hybrid Broadcast Broadband for All. Project information available at http://www.hbb4all.eu.

These resources, however, have not been found in the analysed corpus and, therefore, have been left out of the discussion in the present paper.

Table 2. Variables under study within orthotypographic conventions

PARAMETER	VARIABLES
Orthotypographic conventions	Quotation marks
	Suspension dots to connect incomplete subtitles

In general terms, the most extended use of quotations marks is for quotes, though other uses following general linguistic norms also apply. More specifically, quotation marks can also be observed to indicate cultural references, film titles or names of restaurants or other places, as highlighted by Díaz Cintas and Remael (2007) and as will be shown in the current analysis.

Suspension dots to connect incomplete subtitles was a widely used resource in the past (Karamitroglou 1998) but nowadays, as stated by Díaz Cintas and Remael (2007: 113), it "seems a rather uneconomical way of conveying information in a professional practice where space is at a premium". Regarding this variable, the UNE Standard in Spain points out that "suspension dots should only be used according to grammatical rules and not to divide sentences in various subtitles" (AENOR 2012: 16).

1.3. Identification of characters

When dealing with the formal aspects of subtitles, character identification is one of the main concerns in SDH. For hearers, character identification is rather straightforward and does not lead to misunderstanding, even when characters are off screen, for voices are generally easy to identify. Hearing impaired audiences, however, often need the specification of such information in the subtitles, as they do not have full access to the original soundtrack.

Table 3. Variables under study within identification of characters

PARAMETER	VARIABLES
Identification of characters	Colour
	Name tag
	Dialogue dash

Three techniques are normally implemented to identify characters, which are the variables under study within this parameter, as shown in Table 3. Firstly, the utterances of the various characters can be presented with a different colour, which is the technique mostly recommended by the UNE Standard. Arnáiz (2015b) claims that the this technique is easy to process and hearing impaired

audiences in Spain tend to prefer it for character identification, though the change of colours does not necessarily lead to better comprehension scores. According to the UNE's advice, yellow should be used for the main character and white for characters without identification. Although no further recommendations are stated—other than a contrast value of 255 in a 8 bit system with three components (red, green and blue) (AENOR 2012: 20-22)—the UNE Standard points out that the number of colours available might be restricted due to technical reasons (teletext allows only for four colours besides white: yellow, green, magenta and cyan) or to users' perception (AENOR 2012: 10-11).

The use of name tags is the second technique recommended by the UNE Standard, which states that they should precede the subtitle and must contain "the name, abbreviation or some objective data" of the character to whom they refer (AENOR 2012: 12). In addition, name tags should be written in upper case and between brackets. A reception study carried out by Arnáiz (2015a) as part of the European project DTV4ALL[5] concludes that the use of name tags delays the identification of the subtitle on screen and audiences need more time to read them when compared to subtitles in colour. Moreover, the incorporation of name tags tend to make eye movement patterns less conventional, forcing the audience on occasions to go back to the beginning of the subtitle to reread it in order to correctly identify the character (Arnáiz 2015a). As discussed by Neves (2009) this technique might be suitable for hearing impaired adults but not for children, who usually face more difficulties when storing and processing information in short term working memory. Authors like De Linde and Kay (1999) claim that among the British audience there seems to be a preference for the use of name tags over colours.

Closely following the convention used in interlingual subtitling, the third technique mentioned by the UNE Standard to identify speakers is dialogue dashes, which "should be used only when there is a risk of confusion between characters and these cannot be differentiated by colours or name tags" (AENOR 2012: 12). In interlingual subtitling, dialogue dashes are only recommended when utterances of two characters can be read within one subtitle. In those cases –and in contrast to the norm in static written discourse and to former usual practices in subtitling– only the dialogue dash of the second character is employed (Díaz Cintas 2003; Pereira 2010).

Due to the lack of homogeneity in current SDH practice and the heterogeneity of the hearing impaired audience, it seems imperative that more reception studies be conducted in order to state viewers' preferences regarding these techniques, particularly in the case of children. Such reception studies should also look into other less frequent techniques such as different textual positioning on screen, the use of upper or lower case in name tags, the resort to more than four colours, the mix of different font types in the same programme or the use of avatars for the identification of characters.

In the following section, materials and methods used for the present study will be discussed in detail.

---

5   Project information available at http://www.psp-dtv4all.org/

2. Materials and methods

For this analysis, all three Spanish DTTV channels exclusively aimed at children and young audiences have been studied, i.e. Boing, Clan and the Disney Channel. Specific data for different children's programmes relating to the above mentioned variables were collected and analysed in a qualitative and quantitative manner.

The audiovisual programmes of the corpus were recorded directly from DTTV with the DVD player Easy Home Combo HD, which records files in .ts format, captures all subtitle and audio tracks of the videos and allows the gathering of subtitling output as immersed in their audiovisual context.

After the recording, data was imported to the statistical analysis software IBM SPSS Statistics so that the qualitative analysis could be substantiated with quantitative data. Finally, conclusions concerning current practices related to some of the formal aspects that characterise SDH aimed at children in Spanish television were derived from the quantitative and qualitative analyses.

Research conducted by Barambones (2012) was taken as a reference for the application of methodologically reasoned criteria to select the corpus. This corpus is representative, in terms of analysed minutes as well as analysed genres, of current programming in TV channels dedicated to young audiences in Spain (Tamayo 2015 and forthcoming). For the corpus to be representative, the minimum sample size of broadcast minutes in one month was calculated using a statistical formula[6]. The total amount of minutes of each channel was divided into the different genres taking into account the percentage of time dedicated by each channel to each genre.

Table 4. Data of the corpus

TV channels	Boing, Clan and the Disney Channel
Minutes	384 (128 minutes of each channel)
Subtitles	6,116
Genres	Animation, entertainment, fiction and puppets

3. Results and discussion

3.1. Layout and positioning

Synchronization with the audible utterances is, according to the data gathered, a variable in compliance with the theoretical review presented above: 98.3% of all subtitles checked, of a total of 6,116, appear on screen synchronized with the dialogue and only an anecdotal 1.7% (102 subtitles in total) is not.

Regarding distribution on screen, the UNE Standard states that both dialogue exchanges and any paralinguistic information should appear at the bottom and centred. Overall results show that around 7% of all subtitles do not appear in that position—6.3% are broadcast left-aligned at the bottom and a total of 0.6% of all lin-

---

[6]   Cf. Morales Vallejo (2012): http://www.upcomillas.es/personal/peter/investigacion/Tama%F1oMuestra.pdf

guistic code subtitles shows a different layout. They appear at the bottom but they are neither centred nor left-aligned, as can be seen in the following screen shot:
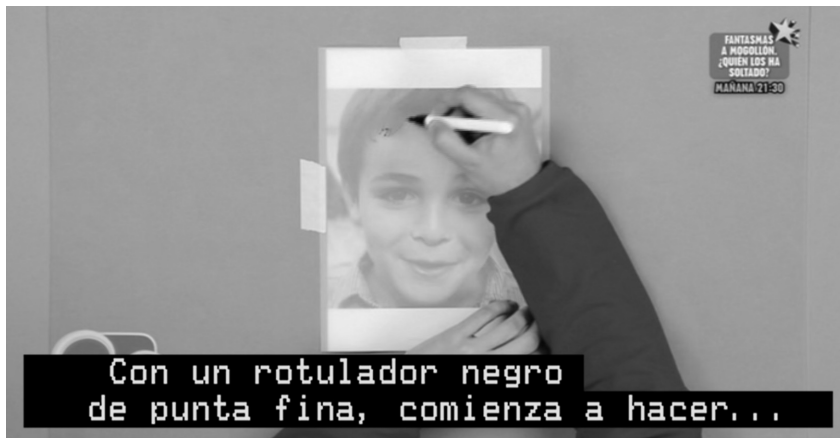

Image 2. Subtitle with anomalous distribution

The number of characters per line is one of the variables complying in full with the recommendations of the UNE Standard, which sets 37 characters as a maximum. None of the analysed subtitles exceeds that maximum and over 98% are made up of 35 characters or less.

Regarding the number of lines on screen, a total of 48.2% (2,938 subtitles) of one-liners have been found versus 51.8% of two-liners (3,157 subtitles). Only one exceptional case of a subtitle with three lines was found on Boing TV channel.

As shown in Graph 1, differences can be observed when filtering data by genre. This can be explained if we take into consideration the way in which oral discourse is embedded in different genres. Hence, entertainment and fiction programmes appear to make use of a more dynamic and condensed dialogue (Tamayo forthcoming) and, according to data, seem to resort to more two-liners than other genres:
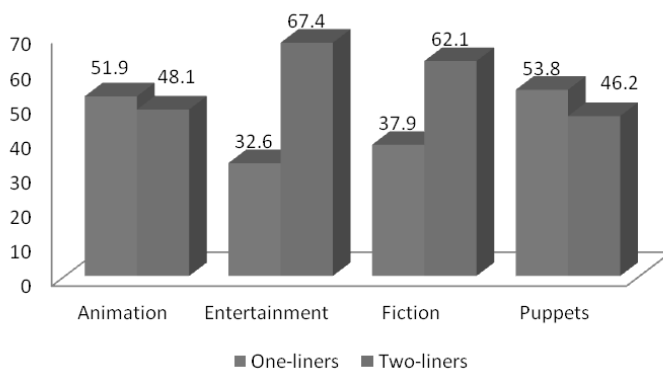
Graph 1. Number of lines depending on genre

When gathering data about the layout of subtitles on screen only two-liners have been analysed. It is worth mentioning the high percentage of inverted pyramid (42%) two-liners, which suggests that pyramidal layout (37%), which is in fact the one recommended by the UNE Standard (AENOR 2012: 16) to allow greater image visibility, is not being followed. Symmetrical textual distribution is used in only 10% of the cases. The layout identified as anomalous (11%) materialises in one of these three cases: (1) subtitles that, as shown in Image 2, are neither left-aligned nor centred, found only in Disney Channel; (2) subtitles that, although centred, do not show a symmetrical black box as illustrated in Image 3, found only in Boing or (3) subtitles that are left-aligned with one line being longer than the other and therefore without a symmetrical distribution, found in Boing and Disney Channel, as shown in Image 4.
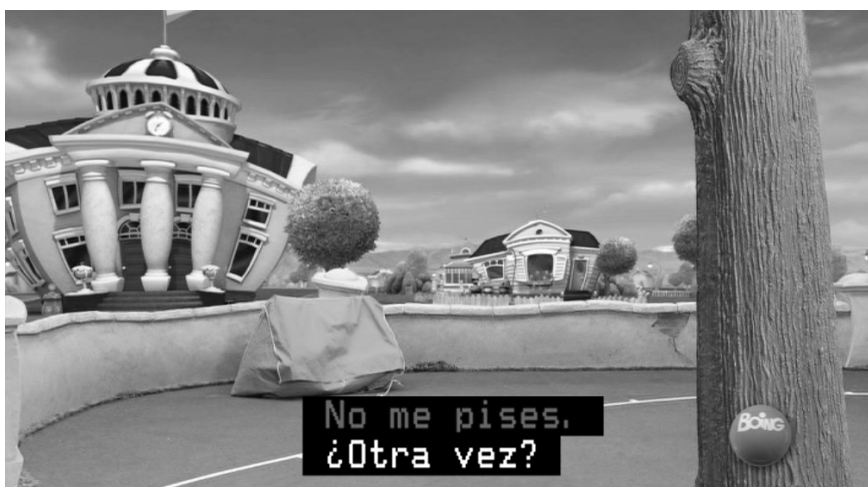

Image 3. Bottom centred subtitle with anomalous distribution

Image 4. Left-aligned subtitle

Regarding the segmentation of two-liners, 93.8% of the analysed subtitles are segmented in a manner that respects complete syntactic units, whilst the rest are inadequate according to the standards proposed by different researchers in the field (Chaume 2004; Karamitroglou 1998) and the UNE Standard 153010. As shown in Graph 2, the reasons are varied and none of them stand out:
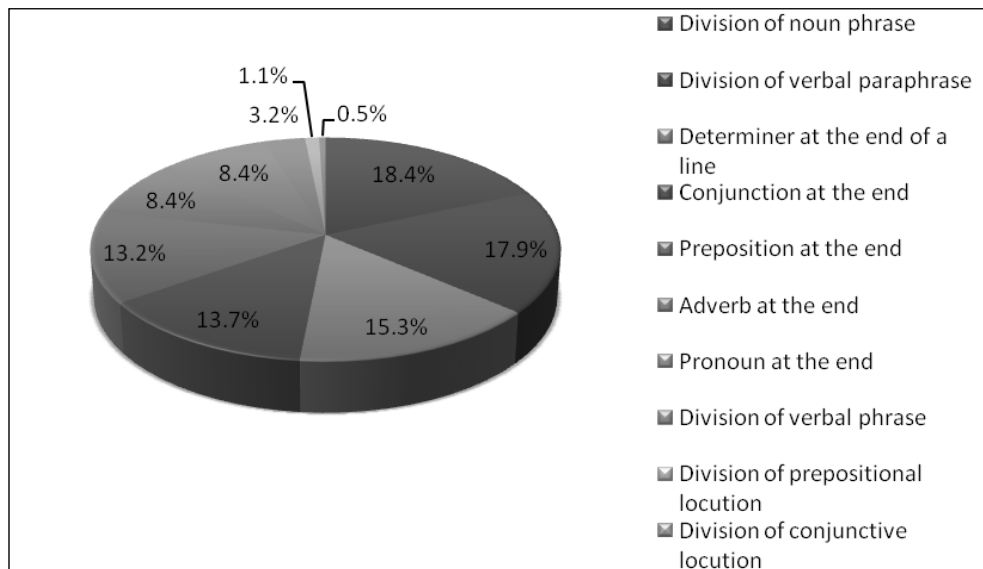

Graph 2. Inadequate segmentation of two-liners

3.2. Orthotypographic conventions

Quotation marks have been used in 239 subtitles (3.9%), fulfilling up to 17 different functions (Graph 3), of which the most extended use is to indicate the presence of music (15.5%). Such a wide range of functions apportioned to the use of quotation marks might arguably lead to a greater cognitive effort on the part of the viewer in order to process and understand their intended meaning within the message. As pointed out earlier, today's technology allows for the activation of different resources, such as underlining, bold or italics, to highlight words in another language, titles of art pieces or to indicate that the dialogue being heard comes from a television in the scene or from other technical devices. For the time being, the usefulness and repercussion on the hearing impaired audiences of these orthotypographical resources are still unknown and more empirical studies would be a welcome addition to the discipline.

Graph 3. Uses of quotation marks

The use of suspension dots to link incomplete subtitles (either at the end of the subtitle, at the beginning or in both positions) has been a widely recommended in conventional subtitling for hearing and for hearing impaired audiences for years (Karamitroglou 1998; Díaz Cintas and Remael 2007). Nowadays, however, this stylistic device is no longer recommended since it occupies too much space in the line, and it is generally understood that if there is no punctuation sign at the end of one subtitle and the following one starts in lower case, they must be semantically connected.

Of the total amount of samples (177 different programmes were recorded), 49% make use of suspension dots to connect subtitles and 51% do not. Firm conclusions cannot be drawn in this respect though differences found between channels are telling, and while Clan and Disney Channel broadcast 68% and 70% of their programmes without connecting suspension dots, Boing only does so in 20% of its programmes.

3.3. Identification of characters

All three TV channels under study systematically use yellow for the main character and green, cyan and magenta for secondary characters, whilst white is reserved for characters of lesser importance; an usage of colours that fully complies with the current UNE Standard. In what follows, the rest of resources used to identify characters, namely name tags and dialogue dashes, are discussed.

Overall, 1,170 cases have been found in which the resource of colour is not used solely. Data in Graph 4 shows the percentages of those 1,170 cases in which other identification techniques, or a combination of techniques, are employed to identify characters.
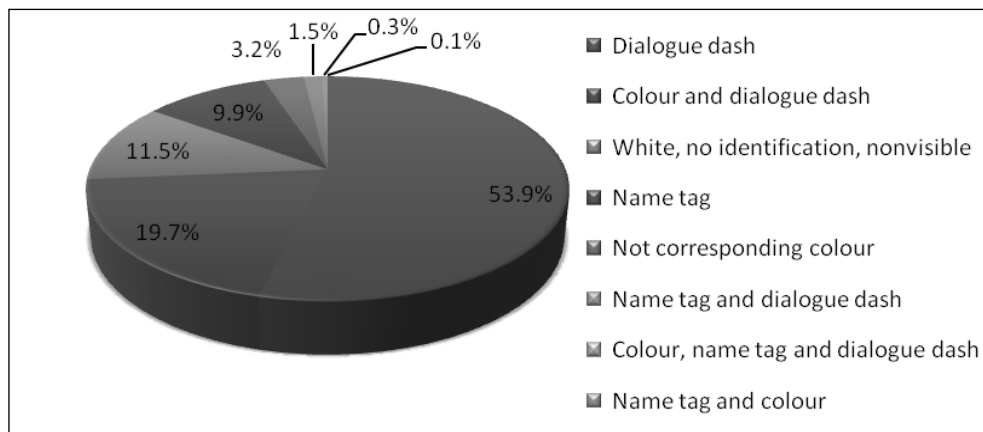
Graph 4. Identification of characters excluding colour

As can be observed, the most recurrent resource is the dialogue dash (53.9%), which is used in 11% of cases to identify the second character when two characters speak in the same subtitle (Image 7). In 14.2% of the cases two dashes are used when two characters speak on the same subtitle (Image 6). By far, the most extended use of dialogue dashes is when only one character speaks in the subtitle (68.4%), as shown in Image 5. In interlingual subtitling for hearers, this practice is not recommended as synchronisation between sound and written text helps viewers to identify the utterance with the character on screen. This practice is also not helpful for the hearing impaired to identify speakers, as it does not clarify who is speaking and, as shown in Image 5, visual identification is sometimes possible. Moreover, the UNE Standard states that "the technique 'use of dialogue dash' consists of placing a dialogue dash before every change of character in a dialogue" (AENOR 2012: 12). Accordingly, a subtitle that reflects the utterance of only one character, and is therefore not part of a dialogue within the subtitle, does not need to follow this technique, though it is true that the wording of the Standard is somehow vague and its reading could allow for various interpretations. A more straightforward definition, accompanied with visual examples that illustrate the various usages of the dialogue dashes, would help to clarify this ambiguity.

Image 5. Dialogue dash for only one character

Image 6. Two dialogue dashes for two characters

Image 7. Dialogue dash for the second character

As seen in Graph 5, the use of the dialogue dash shows significant differences depending on the genre of the audiovisual programme, rather than the broadcasting channel, probably because of the very nature of dialogue exchanges in the different genres:
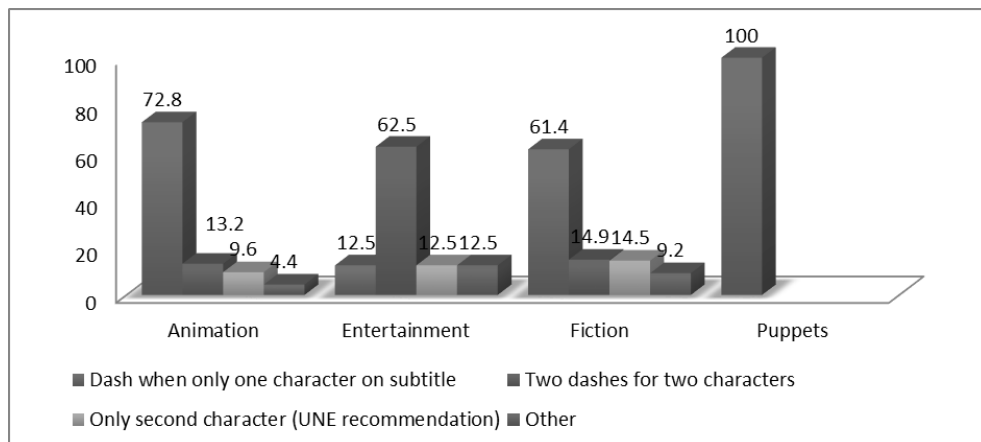
Graph 5. Uses of dialogue dash according to genres

It is noticeable the high frequency in entertainment programmes of two dialogue dashes for two characters in the same subtitle, a finding that can be explained by the linguistic nature of each genre. In the corpus, entertainment programmes are very rare (only 5%) and they include quiz shows (54% of the time is dedicated to these programmes), which are characterized by the starring of various contestants that, in turn, leads to dynamic exchanges of dialogue. As a consequence, when compared to

other genres, a greater percentage of subtitle blocks containing utterances of two characters can be observed and therefore, also a greater percentage of subtitles with two dialogue dashes, as can be seen in Graph 5.

On the other hand, the genre puppets usually has less dialogue, uttered at a slower pace, meaning that the spotting of two different characters in the same subtitle is not very common. Indeed, in 100% of the analysed cases the dialogue dash only appears in subtitles representing the utterance of a single character.

The UNE Standard 153010 defines name tag as the "information that identifies a character in those cases in which it is not possible to do so by using colours" (AENOR 2012: 6). The aim here is to ascertain whether professional practice follows the recommendations put forward by the Standard (i.e. the information appears in brackets and with all letters capitalised) or if, on the contrary, another layout is used. The results show that the vast majority of cases (94.9%) do follow the recommendations of the UNE (Image 9) and only an anecdotal 5.1% of cases use a different format, as illustrated in Image 8:

Image 8. Name tag, format other

Image 9. Name tag, format UNE

As the UNE Standard sets the use of name tags as their second recommended technique (after that of colours) for the identification of characters, it should be expected to exceed that of dialogue dashes. However, the findings refute this hypothesis as only 9.9% of cases resort to name tags versus 53.9% of cases in which dialogue dashes have been used (Graph 4).

4. Conclusions

Generally speaking, homogeneity can be observed in the way in which professional practice is conducted and compliance with the current UNE Standard is achieved, particularly in what regards the parameter layout and positioning of subtitles. Subtitles are properly synchronised with the audible message (98.3%) and comply with the UNE Standard insofar as location on screen (93% bottom centred), maximum number of characters per line (100% are 37 characters or less) and line breaks (93.8% adequately segmented) are concerned. Regarding layout of two-liners, pyramidal (37%) and inverted pyramidal (42%) positions are the most frequently used.

With respect to orthotypographic conventions, it can be concluded that current practices do not make the most of the potential unleashed by new digital technology. The only resource employed to call the attention to the linguistic code, namely inverted quotations marks, is used in a very heterogeneous manner. Indeed, they are used with some 17 different values, which would seem to load, or at least complicate, the cognitive effort required to process the information in the right way. Although the analysis of the data regarding the use of suspension dots to connect incomplete subtitles does not allow for firm conclusions to be drawn about common practices, it brings to the fore the heterogeneous usage of this resource, despite the recommendations to avoid it in the discipline (Díaz Cintas and Remael 2007).

When it comes to the identification of characters, a generalised use of colours for main and secondary characters is observed. The use of the dialogue dash is not being

implemented systematically as, in 68.4% of the cases, it is used when only one character speaks in a subtitle. It can thus be hypothesised that heterogeneity in professional practice could lead to a greater cognitive effort when processing the message. The use of name tags to identify characters follows the recommendations put forward by the UNE Standard in 94.4% of occasions. Nevertheless, when compared to the use of dialogue dashes (53.9%), the presence of name tags is less frequent than expected (9.9%), as the UNE Standard recommends the use of name tags before dialogue dashes.

The advantages or disadvantages of these common practices in SDH for children should be considered in a reception study that compares current practices to a more creative subtitling alternative that takes into consideration some of the recommendations stated in previous research (Kirkland 1999; Utray et al. 2010; Arnáiz 2012 and 2015a; Zárate 2014, Szarkowska and Laskowska 2015). Such reception study would help confirming or refuting the formulated hypotheses regarding the cognitive effort necessary to process the information due to some heterogeneous practices observed in the present study.

Although throughout this paper current practices in children's programmes have been compared to the UNE Standard, as the only official set or recommendations in Spain, it has to be borne in mind that the UNE Standard has a general scope and addresses the whole hearing impaired community. It is crucial to understand that hearing impaired children need different solutions that are more adequate to their reading abilities and patterns. In this sense, reception research focusing especially on their needs and preferences would be of great interest in the discipline.

5. References

AENOR, *Norma UNE 153010: Subtitulado para personas sordas and personas con discapacidad auditiva. Subtitulado a través del teletexto*. Madrid: AENOR 2012.

Arnáiz, V., «Los parámetros que identifican el subtitulado para sordos. Análisis and clasificación», *MonTI* 4 (2012), 103-132.

— «Eyetracking Tests in Spain», in: Romero Fresco, P. (ed.), *The Reception of SDH in Europe*. Berlin: Peter Lang 2015a.

— «Long questionnaire about SDH in Spain», in: Romero Fresco, P. (ed.), *The Reception of SDH in Europe.* Berlin: Peter Lang 2015b.

Barambones, J., *Lenguas minoritarias and traducción: La traducción audiovisual en euskera.* Castellón: Publicacions de la Universitat Jaume I 2012.

BBC, *Online Subtitling Editorial Guidelines V1.1*. Ford Williams, G. (ed.), 2009 [Retrieved from http://www.bbc.co.uk].

Bernard, M.L., Liao, C.H., Chaparro, B.S., and Chaparro A., «Examining perceptions of online text size and typeface legibility for older males and females», in *Proceedings of the 6th Annual International Conference on Industrial Engineering: Theory, Applications and Practice*. San Francisco, 2001.

Brondeel, H., «Teaching subtitling routines», *Meta* 39:1 (1994), 26-33.

Centro Español del Subtitulado y la Audiodescripción (CESyA), *Seguimiento del subtitulado y la audiodescripción en la TDT*, 2014.

Coltheart, M. (ed.), *Attention and Performance II: The Psychology of Reading*. London: Lawrence Erlbaum Associates 1987.

Chaume, F., *Cine y traducción*. Madrid: Cátedra 2004.

De Linde, Z. and Kay N., *The Semiotics of Subtitling*. Manchester: St. Jerome 1999.

Díaz Cintas, J., *Teoría y práctica de la subtitulación inglés-español*. Barcelona: Ariel 2003.

— «Teaching and learning to subtitle in an academic environment», in: Díaz Cintas, J. (ed.), *The Didactics of Audiovisual Translation*. Amsterdam/Philadelphia: John Benjamins, 2008, 89-104.

Díaz Cintas, J. and Remael, A., *Audiovisual Translation: Subtitling*. Manchester: St. Jerome 2007.

Frazier, L., «Sentence Processing: A Tutorial Review», in: Coltheart, M. (ed.), *Attention and Performance II: The Psychology of Reading*. London: Lawrence Erlbaum Associates 1987, 559-586.

González, S., *Making The Gruffalo Accessible to Spanish Children*. MA Dissertation. London: Roehampton University 2011.

Holmes, V. M., «Syntactic parsing: In search of the garden path», in: Coltheart, M. (ed.), *Attention and Performance II: The Psychology of Reading*. London: Lawrence Erlbaum Associates 1987, 587-599.

Ivarsson, J. and Carroll, M., *Subtitling*. Simrishamn: TransEdit HB 1998.

Karamitroglou, F., «A proposed set of subtitling standards in Europe», *Translation Journal* 2:2 (1998).

Kirkland, C.E., «Evaluation of captioning features to inform development of digital television captioning capabilities», *American Annals of the Deaf* 144:3 (1999), 250-260.

Koolstra, C.M., Van der Voort, T.H.A., and Van der Kamp, L.J.Th., «Lengthening the presentation time of subtitles on television: Effects on children's reading time and recognition», *Communications* 24:4 (1999), 407-422.

Morales Vallejo, P., *Tamaño necesario de la muestra: ¿Cuántos sujetos necesitamos?* Madrid: Universidad Pontificia Comillas. Facultad de Ciencias Sociales, 2012. [Retrieved from:
http://web.upcomillas.es/personal/peter/investigacion/Tama%f1oMuestra.pdf].

Neves, J., «Interlingual subtitling for the deaf and hard-of-hearing», in: Díaz Cintas, J. and Anderman G.M. (eds.), *Audiovisual Translation: Language Transfer on Screen*. New York: Palgrave Macmillan 2009, 151-169.

Perego, E., «Subtitles and line-breaks: Towards improved readability», in: Chiaro D., Heiss C. and Bucaria C. (eds), *Between Text and Image: Updating Research in Screen Translation*. Amsterdam: John Benjamins 2008, 211-223.

Perego, E., Del Missier, F., Porta, M. and Mosconi, M., «The cognitive effectiveness of subtitle processing», *Media Psychology* 13 (2010), 243-272.

Pereira, A.M., «Criteria for elaborating subtitles for deaf and hard of hearing adults in Spain», in: Matamala, A. and Orero, P (eds.), *Listening to Subtitles. Subtitles for the Deaf and Hard of Hearing*. Bern: Peter Lang, 2010, 87-102.

Poyatos, F., *La comunicación no verbal II*. Madrid: Istmo 1994.

Orero, P., Serrano, J., Soler, O., Matamala, A., Castella, J., Soto Sanfiel M.T., Vilaro, A., and Mangiron, C., «Accessibility to digital society: Interaction for all» *Presentation at ICDS 2014: The Eighth International Conference on Digital Society* 2014 [Retrieved from
http://www.hbb4all.eu/wp-content/uploads/2014/04/icds_2014_8_10_10031.pdf]

Rajendran, D.J., Duchowski, A.T., Orero, P., Martínez, J., and Romero-Fresco, P., «Effects of text chunking on subtitling: A quantitative and qualitative examination», *Perspectives: Studies in Translatology*, 21:1 (2013) 5-21.

Szarkowska, A. and Laskowska, M., «Poland – a voice-over country no more? A report on an online survey on subtitling preferences among Polish hearing and hearing-impaired viewers», in: Bogucky, Ł. and Deckert, M. (eds.), *Accessing Audiovisual Translation*. Bern: Peter Lang 2015, 179-197.
[Retrieved from http://publikacje.ils.uw.edu.pl/publication/view/poland-a-voice-over-country-no-more-a-report-on-an-online-survey-on-subtitling-preferences-among-polish-hearing-and-hearing-impaired-viewers/]

Tamayo, A., «Estudio descriptivo de la subtitulación para niños sordos y con discapacidad auditiva en las cadenas infantiles y juveniles en España», *Quaderns: revista de traducció*, 22 (2015) 363-383.

—, «Reading speed in subtitling for hearing impaired children: an analysis in Spanish television», *The Journal of Specialised Translation*, 26 (forthcoming).

Utray, F., Ruiz, B., and Moreiro, J.A., «Maximum font size for subtitles in Standard Definition Digital Television», in: Matamala, A. and Orero, P. (eds*.), Listening to Subtitles. Subtitles for the Deaf and Hard of Hearing.* Bern: Peter Lang 2010, 59-68.

Zárate, S., «Bridging the gap between Deaf Studies and AVT for Deaf children», in: Díaz Cintas, J., Matamala, A. and Neves, J. (eds.), *New Insights into Audiovisual Translation and Media Accessibility: Media for All 2*. Amsterdam and New York: Rodopi 2010a, 159-173.

— «Subtitling for deaf children», in: Bogucky, Ł. and Kredens K. (eds.), *Perspectives on Audiovisual Translation.* Frankfurt am Main: Peter Lang 2010b, 107-122.

— «Word recognition and content comprehension of subtitles for television by deaf children», *The Journal of Specialised Translation,* 21 (2014) 133-152 [Retrieved from http://www.jostrans.org/issue21/art_zarate.pdf].