Accessibility to Leisure and Culture: Evaluation of Contents by means of Web-based Reception Studies with PRA2

 Antonio Javier Chica Núñez✉
Universidad de Granada

 Catalina Jiménez Hurtado✉
Universidad de Granada

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Abstract

Despite efforts undertaken by the public administration (ministries, public museums) and companies (private museums, tourist centres, streaming platforms) to bring multimodal cultural heritage closer to all citizens, the true extent of access for those with disabilities or those at risk of exclusion remains largely unknown.

In recent years, translation studies in the field of audiovisual translation have shown a particular interest in analysing the way in which the impaired public accesses multimodal contents of all kinds. Methods (qualitative and quantitative) from other disciplines have been applied and replicated, creating a profusion of studies that seek to measure and evaluate the quality of access.

This article presents the PRA2 platform, an online portal for the evaluation of accessible audiovisual resources that proposes a new way of analysing the quality of reception by developing a series of online questionnaires to target the sensory and cognitively impaired public in particular. The article presents the main features of this valuable research tool as well as the preliminary results of a study hosted by the portal regarding audio description (AD) for the *Guernica* painting.

Key words: translation studies, museums, multimodal cultural heritage, reception studies, accessibility, impaired public, multimodal translation, online evaluation platform, audio description, subtitles for the deaf and hard-of-hearing.

✉ antoniochica@ugr.es, https://orcid.org/0000-0001-9229-0014
✉ cjimenez@ugr.es, https://orcid.org/0000-0003-3060-0413

1. Introduction

The preliminary version of the latest EU Commission Proposal for Horizon Europe (European Commission, 2019), in Pillar II, is titled Global Challenges and European Industrial Competitiveness. Interestingly, it includes an action line related to Culture, Creativity and Inclusive Society. This action line not only stresses the idea that an inclusive society should be based on shared heritage, but also claims that its realisation should be undertaken within a joint European research programme in order to confront the global challenges currently faced by Europe. One of these challenges is to assure the involvement and participation of European citizens in this valuable endeavour.

In today's world, cultural and creative industries (CCI) constitute a vast field of knowledge that disseminates activities of cultural, artistic or heritage-related nature. They create valuable resources in the form of multimodal environments and texts. Unfortunately, many cultural events or services are inaccessible to those who are most vulnerable. This is particularly the case for people with sensory disabilities.

European institutions and companies already firmly support accessibility to heritage sites at different levels in order to encourage inclusion and participation. In that sense, streaming platforms, museums, and heritage sites have recently prioritized accessibility tools that include Easy Reading for the cognitive impaired, audio description for the blind and partially sighted, subtitling for the deaf and hard-of-hearing, as well as sign language interpreting.

For this reason, over the last twenty years, the field of Translation Studies (TS) has provided frameworks that conceptualise and theoretically describe the translation process typical of these modalities. In an initial phase, translation scholars borrowed from other disciplines. However, after this relatively brief interim, they then proceeded to elaborate their own methods of analysis, primarily by adopting and adapting various research methods for their own purposes (Fryer, 2018a). Unfortunately, up until now, research on intersemiotic translation has only managed to scratch the surface. Surprisingly little is still known about how people with sensory disabilities access and perceive multimodal texts.

2. Accessible Translation as a Communicative Tool: A Partial Consensus

The state of the art reflects a general consensus on various concepts and ways of approaching research in accessible translation. Firstly, most scholars agree that accessible translation is basically multimodal. In other words, codes are translated from one semiotic mode to another, which makes this complex communicative activity intersemiotic. In audio description, images are translated into words (Jiménez & Seibel, 2011), whereas in subtitling for the deaf and hard-of-hearing, articulated and non-articulated sounds (and their interaction) are translated into words (Jiménez & Martínez-Martínez, 2018a).

In easy reading, a verbal text is translated into a written text with a lower level of complexity. This act is intersemiotic, because newly added images translate certain aspects of the verbal text into a visual code and grammar with a complex communicative function. This enables people with reading and writing difficulties to access a complex communicative situation. However, there are inconsistencies regarding the nature of the semiotic mode or translation modality applied to translation (Orero, 2018).

Another area of consensus in TS is that accessible translation, especially sensory translation, is of capital importance in the following domains: (a) audiovisual communication; (b) artistic heritage (museums and cultural events, such as theatre, opera and dance); and (c) cultural tourism. However, what is still lacking is a sound conceptual framework that would justify such a distinction.

The third area is related to the quality and usability of the translated text. In regard to multimodal and intersemiotic translations, it is generally assumed that they provide the intended user (blind, deaf, or reading-impaired people) with access to the text, and that the degree and quality of access is suitable for the intended users. The users are also assumed to be a more or less homogeneous group. However, all of this requires further studies that involve evaluation of access under each user's specific circumstances and validation of the multimodal translations rendering content from the source text.

In fact, the truth is that we still know very little about the access of impaired users to multimodal texts, not to mention the degree and the quality of that access. This includes the way that different modes of perception actually function, and the semantic and functional roles of each of the modes in overall perception.

Even though significant efforts have been made to measure the phenomenon of understanding, the aesthetic experience or mental images activated by people with or without a disability (Burton, Diamond, & McDermott, 2003; Röder, Stock, Bien, Neville, & Rösler, 2002; Bedny, Pascual-Leone, Dodell-Feder, Fedorenko, & Saxe, 2011; Ishizu & Zeki, 2013; Ramos & Rojo, 2014; Ramos, 2016; Bardini, 2017; Barnés & Jiménez, 2020), the results obtained are still far from creating a comprehensive description of the possible outcomes (Fresno, Castella, & Soler-Vilageliu, 2016; Walczak & Fryer, 2017, 2018).

Interestingly, the three paradigms used by Film Studies to classify audience reception are also now used in TS. The first paradigm includes studies of the audience as a passive entity, analysing consumer habits or vertiginous changes in technological supports that favour changes in habits rather than in expectations (Di Giovanni & Gambier, 2018, p. vii). This type of analysis is based on quantitative methods of mass response like the AUDETEL study on AD in the 90's (Pettit, Sharpe, & Cooper, 1996).

The second paradigm used in film studies stems from a reaction to the first, starts precisely from its criticism and creates an active model of the audience (Hill, 2018). Qualitative methods are used to focus on the audience's interpretation of the meaning of the media. A central issue is thus how messages are understood from different points of view and for different purposes like gender,

ideology, genre, second language acquisition, etc. (Caimi, 2006; Walczak & Fryer, 2018; Ranzato, 2019).

Finally, the third paradigm uses a combination of qualitative and quantitative methods. In this sense, even though it is rooted in approaches that are communication media and audience-centred, it also includes aspects of the audience and their socio-cognitive context. All of these paradigms employ a variety of research methods (qualitative and quantitative), both online and in ecologically validated environments. This seems to indicate that a multidimensional analysis should be considered: "The combination of multi-method and multi-site research allows for flexibility in a study of media audiences. The benefits of this flexible approach mean you adjust the research design and analysis to the situation under investigation" (Hill, 2018, p. 9). One of the most interesting aspects of this evolution of research approaches is that there is a correlation between the study method and the research questions posed. Quantitative methods seek to provide answers for trends, such as general consumption habits, whereas qualitative methods investigate the reasons that lead the audiences to respond in a particular way.

TS have followed a similar path. For example, in the beginning, quantitative-type studies (ADLAB PRO, 2017; Orero, 2016; Taylor, 2016) have sought to identify general trends and audience habits with various types of impaired capacity. In contrast, the more current studies (whether online or offline) prefer qualitative methods to clarify the interaction between the subject and a multimodal text. They study different forms of access in terms of memory, and provide possible interpretations and judgements about the aesthetic experience. This indicates a shift from the evaluation of sociological and cultural elements, such as tastes, in terms of the social composition of the audience, to the evaluation of cognitive aspects, the ability to access the multimodal text, and the measurement of cognitive load (Perego, Del Missier, & Bottiroli, 2015; Kruger, Doherty, Fox, & De Lissa, 2018).

According to Di Giovanni (2019, p. 175), "audience research has been booming over the past few years, pushing the field of study beyond a rather stale descriptivism".

Nevertheless, at this moment, and despite significant advances in research methods and the different variables studied, there are still many questions about how audiences with sensory and cognitive disabilities access translated multimodal texts. This is particularly true for reception (more than reaction and repercussion) or the functional interpretation of a text (Gambier, 2018, p. 60). The individual differences in terms of sensory or cognitive access to information will always pose a great challenge for perception and reception. However, we strongly believe we can only address such challenges by designing and conducting multi-layered and multi-method research (experiments, questionnaires, interviews, etc.) in relation to users with different reception profiles.

Regardless of the personal insights of the subjects, the quality of reception seems to be directly related to two elements that provide valuable data regarding their access to knowledge (Fryer, 2018b). The first element is their ability to create a model or mental image with the information received, in other words, their ability to remember the morphological, semantic and syntactic

elements in the translated text. The second involves a potential aesthetic experience when dealing with texts related to art, tourism or film fiction. According to Gambier (2018, p. 56) "studies can be carried out on their satisfaction (in relation to the quality of translation) and their evaluation (in relation to their comfort)" or they can measure the identification or immersion into a particular fictional world (Wilken & Kruger, 2016).

Obviously, it is not easy to access or analyse this type of information, which is more easily and effectively obtained with qualitative studies such as focus groups, interviews, etc. However, we agree with Tuominen (2018, p. 69) when she considers that "large-scale, collective research approaches and replication of research designs in a variety of contexts", even those that go beyond a certain cultural framework (one language, one country), can be highly beneficial, since they can considerably expand the way in which the impaired audience actually accesses the content.

In this type of large-scale study, it is possible to discover patterns of access to translated texts that transcend a group with a certain socio-demographic profile or cultural differences in the interpretation of a particular phenomenon. Nowadays, it is necessary to explore which factors cause a certain type of reception to produce one experience or another in different subjects, or simply whether certain elements are better remembered, depending on the spatial-temporal factors that they represent or translate (Cabezas, 2017).

In fact, in our opinion, differences in access between specific individuals are diluted in large-scale studies since these provide a broad overview of whether a translation strategy has been more or less successful (Tuominen, 2018, p. 80). Individual results are highly relevant for other types of study, but at this moment, broader issues have priority. For example, we need to know whether the spatial-temporal structure of the audio descriptions that follow more or less established canons or guidelines actually provide an access comparable to that of people without disabilities (in a similar environment and with a similar sociodemographic profile). For this reason, collaborative research is necessary since "individual studies are often small in scope and tend to provide only provisional answers to research questions concerning reception" (Tuominen, 2018, p. 85)

After five years of conducting reception studies based on interviews and focus groups, with questionnaires complemented by group and individual interviews (Chica, 2016; Cabezas, 2017), we considered it imperative to carry out large-scale reception studies in order to obtain systematic trends that go beyond sets of opinions of the groups of people with disabilities in a given community. The aim is to leave behind the subjective opinions of subjects, which, though valuable, are also mediated by the tastes and preferences of one or several individuals. The TRACCE group has gained substantial insight into the creation and validation by end-users of accessible contents for the science museum—TACTO (Soler, 2012)—, heritage spaces—DESAM (Álvarez & Jiménez, 2016)—, and art museums—CITRA (Carlucci & Seibel, 2017)—after completing various educational innovation and research projects where B&PS and DHH participants played a capital role in the assessment of multimodal translated materials.

In that sense, PRA2 facilitates research in the field of reception and provides a systematic methodological framework for this purpose. Thanks to PRA2, the same study, with the same method in similar conditions, can be replicated not only in different micro-contexts (age, gender, educational level, and preferences) but also in macro-contexts (different countries and cultures sharing the same language). Specifically, we intend to target certain Latin American sensory and cognitive impaired audiences to enlarge the study population. Of course, this would require a thorough revision of research tools in terms of localisation of accessible contents, linguistic adaptation of questionnaires and experiments and outreach work to attract participants.

Needless to say, there is immense value in having large-scale data on the same phenomenon such as the reception of a certain type of intersemiotic translation (e.g., images to words) in the field of art or audiovisual communication. We are not only referring to the same study carried out in different countries with different languages but also to large-scale studies that include factors related to access trends, based on sociodemographic factors, and which provide results for a certain group of variables regarding a specific translation strategy.

It is often stated that qualitative studies mainly measure comprehension, recall or perceived cognitive effort (Kruger & Doherty, 2018, p. 91). Nevertheless, this does not mean that these factors cannot also be measured on a larger scale with online reception studies such as those performed with the PRA2 platform.

3. Large-Scale Online Reception Studies for Refined Evaluation of Accessible Content

The contents included in PRA2 usually consist of multimodal translations (from images to words) in the case of visually impaired persons, as well as sign language interpreting (SLI) or subtitling with certain adaptations in the case of hearing-impaired persons. In all three cases, museum audio description (AD), SLI and Subtitles for the Deaf and Hard-of-hearing (SDH), we are dealing with translation modalities that have been studied within TS throughout Europe. The difference with previous research is that the PRA2 portal has an online evaluation and data storage structure that is fully operational for mass reception studies (RS).

As noted in the previous section, some of these modalities have been evaluated in museum and heritage contexts by means of limited reception studies (Szarkowska, Krejtz, Pilipczuk, Dutka, & Kruger, 2016; Cabezas, 2017; Di Giovanni, 2018). However, despite the pioneering nature of the reception studies carried out to date in AD or SDH in museums, for example, we might need to go beyond knowing the expectations, needs or degree of satisfaction of small groups of users. Rather, it is essential to undertake new large-scale studies, in which experimental variables can be introduced and manipulated with respect to the type of discourse, the cognitive load related to lexical semantics and the syntax or distribution of elements in the accessibility text, among other actions. In other words, the study tool must be flexible enough to accommodate different types of experimental, quantitative and even qualitative studies. Specifically, with regard to AD, it is time to introduce a new,

somewhat more complex phase of study where, in addition to the elements inherited from film AD, information about real access to knowledge and to the aesthetic experience of the translated work is gathered; especially in museum contexts.

In fact, despite being necessary, pioneering and interesting, the classic reception studies have some limitations, among which we could focus on the insufficient number of subjects, the variety of their socio-demographic profiles, the diversity in the type of blindness or low vision conditions and the causes of the disability (whether congenital or acquired), as well as the frequency with which disabled people attend exhibitions or their shared level of knowledge about art. These variables greatly condition memory and the quality of accessibility contents. For these reasons, PRA2 has opted for online RS, thanks to which at least some of the limitations imposed by physical access to museum spaces would be overcome. For example, the number of subjects, with their particularities, would no longer be a limitation, given that an online study is accessible from anywhere and by anyone who knows the language (Wright, 2005; Van Selm & Jankowski, 2006; Wright & Schwager, 2008; De Leeuw, Hox, & Dillman, 2008). However, we also acknowledge the disadvantages of online RS. Among them, we should mention that participants do not receive feedback from researchers and that might hinder their progress. It is also difficult to discriminate real users with functional diversity from those who do not have any, although the initial filtering questions are intended to prevent users from pretending to be B&PS or DHH. Thanks to several sessions with visually impaired participants for the promotion of the web portal, we actually checked that a factor of reluctance to the use of technologies—especially among older subjects—could be a major deterrent for participation. Besides, in self-administered questionnaires like these, the pace of answering questions is entirely up to participants, and so is their completion, which may also be serious research handicaps. Technical restrictions (the quality of connection, the use of different browsers, devices, screen configurations, screen reader and voice-over settings and so on) may also cause breakoffs that may threaten data quality.

4. Collaborative Development of Reception Studies

Much of our research methodology is based on the Social Model of Disability, Universal Design or the Emancipatory Research on Disability (Oliver & Sapey, 2006; Shakespeare, 2010; Buhalis & Darcy, 2011). According to these theories, we need to give voice to disabled visitors so that they can evaluate the accessibility conditions of museums (Moussouri, 2007, p. 94). Consequently, the PRA2 portal has attempted to provide the conditions and tools for the assessment of accessibility resources by visually or hearing-impaired users by means of a series of research studies.

From the beginning, the researchers established a dynamic of multidisciplinary collaboration for the development of these instruments, counting on the contributions of researchers belonging to the areas of Tourism and Heritage Interpretation (Alcañiz & Simó, 2004), as well as Art History, Art Education, Museology and Visitor Studies or Law (Falk & Dierking, 2000; Asensio, Pol & Gomís, 2001; Everett & Barrett, 2009). Reception studies are designed according to a predetermined workflow

among the project members: translators, linguists, museum educators and mediators, art specialists and lawyers. First of all, researchers from the translation field select accessible materials (AD, SDH, etc.) and determine the variables they wish to study. After the first draft of research items, the questionnaire passes to art specialists and museum educators in order to check that the main issues regarding artistic information and audience characteristics have been addressed. Later on, linguists edit the phrasing of questions according to easy-language practices to provide coherence to the study. Besides, in the initial stage, the selected materials are examined by lawyers in order to ensure that copyright laws are fully respected.

The PRA2 platform hosts RS dedicated to both visual and auditory functional diversity. Specifically, up to this date, the members of the research team have developed 64 RSs for the visually impaired and 12 RSs for the hearing impaired. The reasons for this distribution are the following: 1) the decision of researchers to carry out pilot studies with blind and partially sighted users; 2) a more direct access and better disposition of this type of users to develop evaluation processes; and 3) the specialisation of researchers in AD as a translation modality. However, it should be stressed that the platform has been fully developed at the technical level to allow deaf and hard-of-hearing participants to explore it and complete the questionnaires on the SDH or SLI resources, such as the one shown in Figure 1.

Figure 1

Screenshot of Accessible Content With Sign Language and Subtitles for the Deaf and Hearing-Impaired

Source: Screenshot of PRA2's Reception Study on the SDH of *Castillo de Niebla*.

In the following sections we will comment on the macro and microstructural organization of the evaluation process conducted in the PRA2 platform by means of three types of questionnaires designed by researchers to collect data: Q1, Q2 and Q3. From the strategic point of view, subjects fill out these questionnaires chronologically and according to their type of disability, so that it is not possible to answer a Q2 or Q3 questionnaire without having completed the previous ones. Neither is it possible to complete questionnaires that have not been linked to the type of disability for which a user has registered.

4.1 Socio-Demographic Questionnaire (Q1)

When users access the platform for the first time, they must register on it and that implies indicating the type and degree of disability affecting them, certain personal details and how they get access to adapted content, with the aim of completing a socio-demographic profile—for reference on item selection, see Chmiel & Mazur (2012), Fernández, Martínez, & Chica (2015), Álvarez & Limbach (2016) —as pointed out in Jiménez y Martínez-Martínez (2018b):

> Variables measured include the type and degree of disability, education level, and profession. The survey also includes general questions related to cultural consumption and the use of new technologies. These questions only appear the first time that the users access the platform since the data provided are saved with a user code and password (p. 45).

We can see part of this process in Figure 2. After registering, the site redirects to another page where users must choose the kind of accessibility materials they can help to evaluate. However, the registration process does not require the retrieval of sensitive information from users such as real names or email addresses in order to ensure an anonymized participation in surveys. The system identifies participants just through usernames and password coding. With such a system, according to the University of Granada, the research process does not necessitate the approval of an ethical committee to conduct research studies and users consent to participate in them at the moment they freely register in the platform.

Figure 2

Screenshot of Q1 – Visual Impairment

Source: Screenshot of PRA2's questionnaire on visual impairment.

4.2 Preliminary Questionnaire on the Field of Study (Q2)

At this point, subjects can evaluate accessible materials in any of the three fields of study included in PRA2: Audiovisual Media, Museums and Tourism. So far, B&PS subjects have been recruited by means of promotion campaigns in various local offices of the Spanish National Organization for the

Blind (ONCE) in the cities of Granada, Almeria and Seville. The first time users get access to one of these fields, and they are asked to complete a questionnaire on their habits and form of consumption of accessibility content in that field. This action is carried out only once and its research purpose is to collect general quantitative data about very practical issues related to the resources, spaces, materials, technical means, practices, etc., that enable access to knowledge within the field of study.

From the methodological point of view, this information has been implemented in a questionnaire with single or multiple response items (depending on the element analysed), as shown in Figure 3.

Figure 3

Screenshot of Q2 – Initial Museum Questionnaire – Visual Impairment

Source: Screenshot of PRA2's initial museum questionnaire on visual impairment.

The questions in Q2, which refer to Museums for visually impaired people, have been designed under the hypothesis that, when answered on a large scale, they can provide significant information not only on the personal tastes of the participants, but also on general habits and trends about information use.

For example, we could obtain broad trends on the type of museum visits made by the visually impaired in terms of the frequency with which they make visits or the kind of company they have for these visits, if any. In essence, these scientifically supported data would allow museum institutions to promote or implement their strategies and accessibility plans for visual disability based on real needs and opinions of users.

In particular, the number of responses in Museums Q2 (36 subjects at this moment) might still be considered low if we take into account that in 2017 the whole population with visual disability included around 220,000 individuals in Spain (IMSERSO, 2017). The actual ideal sample number is a somewhat vague figure. It depends on many factors. Considering the current Spanish population of B&PS and the fact that we would like to reach a 95% confidence level and a 5% error margin, we would set the minimum point at 96 individuals. With different percentages, the amount would differ accordingly (Lohr, 2008). If we reduce the actual target population under considerations like "internet usage availability and ability to complete online self-administered questionnaires", the figures will change. In any case, this figure does not allow us to generalise the results, but it does offer some trends that already seem significant. For example, we observe that visually impaired people never or almost never visit museums alone but come accompanied by family or friends (75%) or in organised groups (25%), (see Chart 2).
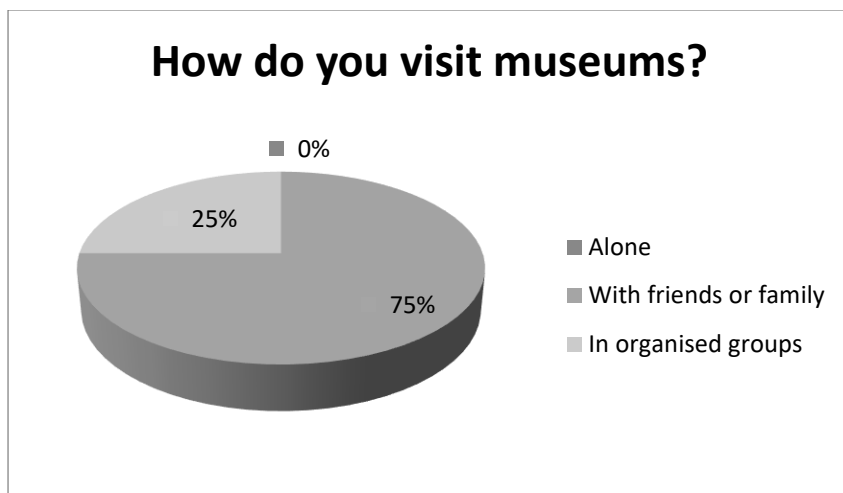
Chart 1

Response Rates for Item 1 of Q2 – Initial Museum Questionnaire – Visual Impairment
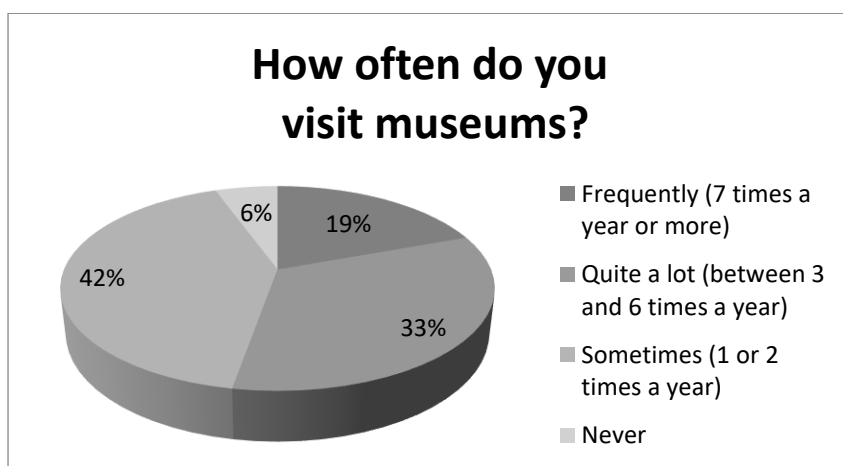
Source: Chart developed by authors from the data retrieved at PRA2's database.

Chart 2

Response Rates for item 2 of Q2 – Initial Museum Questionnaire – Visual Impairment

Source: Chart developed by authors from the data retrieved at PRA2's database.

4.3   Specific Questionnaire on Accessible Content (Q3)

After completing the Q2 questionnaire, the user may choose to answer any of the reception studies. The objective of their design is to highlight the element or elements to be analyzed in the RS. In some cases, experimental studies are proposed, while in others a non-experimental approach is assumed. Independently, the researcher must follow a hypothesis or a research question. For example, in the study discussed in this article—on the AD of the *Guernica* painting—the hypothesis addresses the question of whether an AD with a high density of information, in which a detailed and extensive description of the elements of the image and its interpretation is made, is difficult to assimilate for visually impaired subjects in terms of: recalling specific data, global understanding, recreating a mental image, etc.

Based on the hypothesis formulated, the dependent and independent variables needed to develop the questionnaire are identified. If we are to make a general summary, some of the most common variables within museum AD can be classified as linguistic (lexicon, syntax, spelling), paralinguistic (voice), textual (coherence, cohesion, discursive organization, extension), translatological (translation and interpreting techniques specific to the mode), and technical or involving presentation features (speed of voice recordings, location of audio-visual material, etc.).

Regarding non-experimental studies, as stated by Jiménez & Chica (in press), in some reception studies it is often not possible or desirable to deliberately manipulate independent variables. In these cases, non-experimental studies are proposed, that is those in which we make an observation of phenomena occurring in their usual context (e.g., AD as proposed by a company or a museum) and of the responses of visually impaired subjects to such phenomena.

Table 1 shows information on the accessible resource *Guernica* coded by the researcher for the design of the RS.

Table 1

Guernica's Reception Study Research Sheet

	Title	Guernica
	Author	Pablo Picasso
	Date	1937
PAINTING	Location	Reina Sofia National Museum of Contemporary Art
	Technique	Oil on canvas
	Dimensions	349.3 x 776.6 cm
	Author	Museo Nacional de Arte Contemporáneo Reina Sofía and ONCE
	Voice type	Recorded, male and female
	Language	Spanish
AUDIODESCRIPTION	Study element	Amount of information
	Translation strategy	Detailed and extensive description. Orderly description of the elements, from right to left and from bottom to top

Source: Chart developed by authors from the data retrieved at PRA2's database.

Questionnaires for specific reception studies are structured in two or three parts, which depends on the number of variables analysed in the study. The first part contains questions that allow the subject to make a general assessment of the quality of AD, its complexity in linguistic terms and the amount of information it provides. Subjects make their assessments using a five-point Likert scale. Hereby we can see the items included in this part:

a) Assess the overall quality of the AD (1=*very low* — 5=*very high*)
b) Assess the complexity of the language of the AD (1=*very easy* – 5=*very difficult*)
c) Assess the amount of information of the AD (1=*scarce* – 5=*excessive*)

The second and third blocks should contain specific questions related to the elements of the study and the independent variables identified (which may have been altered in experimental studies). In the RS on the AD of the painting analyzed in this paper, *Guernica,* there are questions related to the study element defined as the "amount of information in the description". Therefore, these items are aimed at checking the subject's recall on visual elements of the composition mentioned by the AD such as the *way in which the women's eyes are represented*, the *number of women* in the painting or *the location of the bull in the* scene.

After completing Q3, the results are automatically stored on the platform and can be extracted using .csv format files that allow data to be entered into specialised software for statistical analysis.

5. Analysis of Results for the Reception Study on *Guernica's* AD

This section discusses the evaluation of *Guernica* AD made by visually impaired users; these considerations belong to the field of Museums on PRA2. Specifically, the data were collected based on the preliminary evaluation of 10 subjects who participated in various guided sessions in the time when the platform was disseminated among the members of the Spanish National Organization for the Blind (ONCE) in the cities of Granada, Almeria and Seville. We would like to stress the preliminary nature of the study. We do not aspire to making any conclusive remarks based on the results obtained in this sample of subjects.

In Chart 3, we can see the values corresponding to Part 1 of Q3 by the 10 subjects who have completed this questionnaire so far. On average, most of them consider the quality of AD to be quite *high* and *good* (4.7 out of 5). They also believe that the complexity of the language—understood as the number and variety of phonological, morphological, syntactic, and semantic elements of a text and the elaborateness of their interrelational structure (Sinnemäki, 2011; Hawkins, 2014)—falls between *medium* and *easy* (3.1 out of 5), and, on average, they reckon that the amount of information in this AD is excessive (4 out of 5). This part of the questionnaire is an initial approach to the global subjective opinion of the subjects towards the AD. Average values are included in Chart 4.

These values suggest that, according to these participants, this AD employs a relatively complex variety of language. Looking at it in more detail, we can see that the description uses terms and expressions of high register (*universal and timeless denunciation of barbarism; her face reflects a deep grimace of horror and fear*), as well as abundant references to pictorial, technical and compositional elements, etc. (*a triangular composition; treatment of bodies and surfaces in angular planes, and superimposed lines and contours*), which may be difficult to interpret for those with no knowledge of art or art history. However, it is still too soon to provide conclusive remarks in this regard. The sample number would need to increase for that. In addition to language difficulty, the

amount of information provided by the audio commentary is quite abundant (Sweller, 2011; Fresno, Castellà, & Soler Vilageliu, 2014). Apart from the number of semantic elements it includes, the utterance speed of the AD is relatively high at 140 words per minute. The description consists of a voice recording of 1032 words with the length of 7'34''.
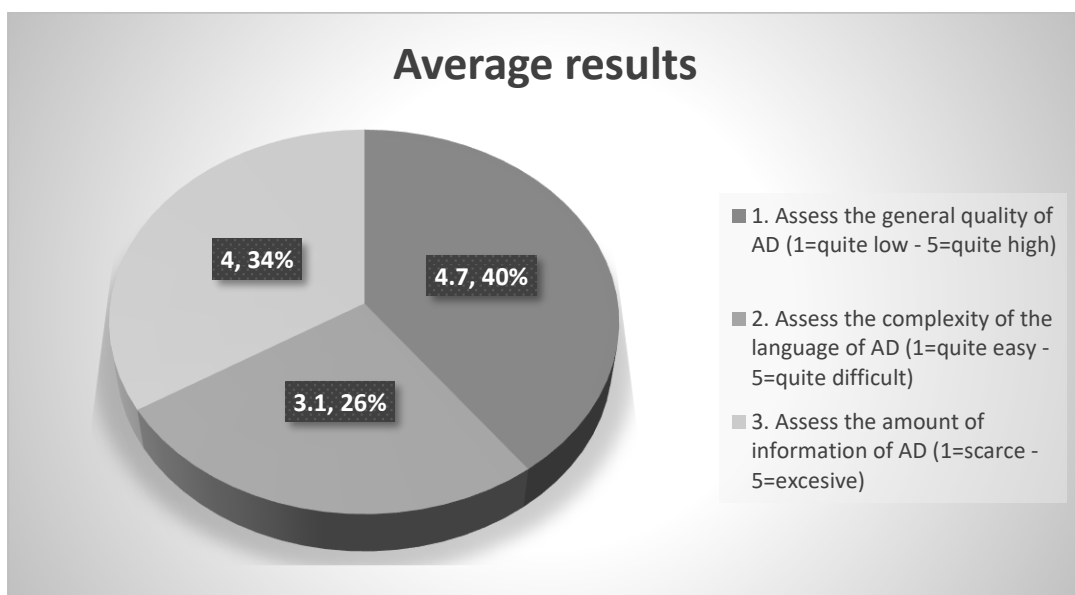
Chart 3

Response values in items 1 to 3 — Q3 – Guernica *RS*
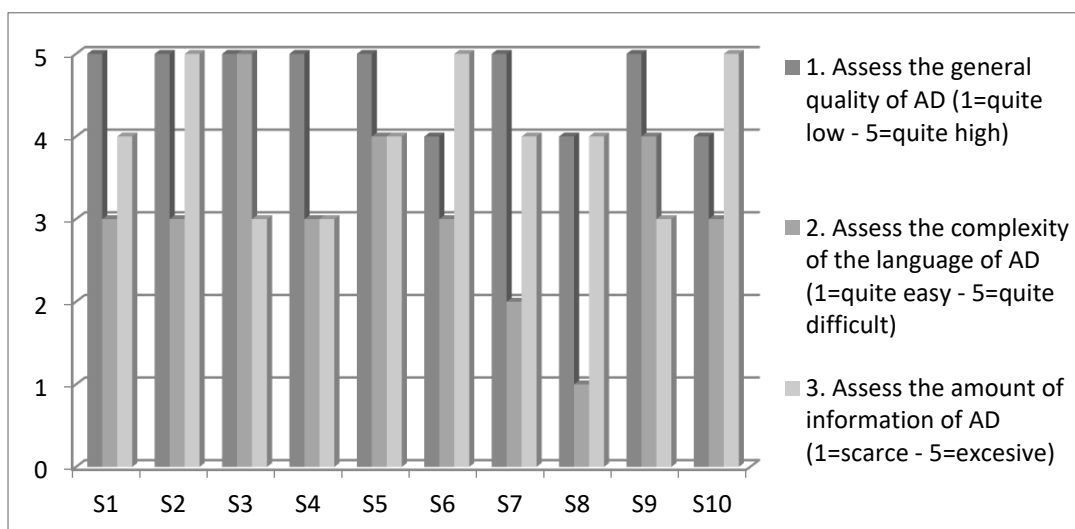
Source: Chart developed by authors from the data retrieved at PRA2's database.

Chart 4

Average response values in items 1 to 3 — Q3 – Guernica *RS*

Source: Chart developed by authors from the data retrieved at PRA2's database.

As regards Part 2 of the RS, in item 4, 70% of subjects could remember that Picasso used *Cubism* as painting style for this work, while two of them did not know it. And only one subject mistook it for *Impressionism*.

Likewise, as for item 5, 70% of subjects did choose the correct answer—*c. Teardrop*—to identify the form used by Picasso to represent women's eyes, while two did not know or remembered it, and just one chose answer *b. Oval*. Regarding item 6, 90% of subjects selected the right answer—*c. Three*—and just one chose—*b. Two*. In item 7, 80% of them correctly indicated that the horse is located in the central area of the painting (answer *c.*), while the rest did not know it.

As regards the last three items, subjects showed the following results:

- #8. 100% of subjects could remember the expression conveyed by the horse correctly—*b. Pain*
- #9. 70% remembered that the dismembered man represented in the painting was a soldier, while two selected answer *a. A peasant* and one did not know it.
- #10. Finally, 70% knew that the figure of the bull is located in the left-hand area of the painting, while three thought it was at the top (c.).

In general, despite the fact that the sample is not representative enough for the B&PS audience to which this kind of AD it targeted, these results lead us to think that regardless of the difficulty of the language and the speed of the narration, comprehension by subjects is relatively high for these items. In a preliminary study like this one, we cannot draw any clear conclusions about this fact, but thanks to the information about subjects already stored in the PRA2 platform, we could perhaps use socio-demographic data (education, age, use of accessible tools) and information provided in Q2 (visiting habits and use of adapted contents in museums) to cross-check data that could lead us to find explanations with sufficient scientific basis for these behaviours, provided that the number of participants increases. It is clear that until the sample is considerably larger (at least 96 subjects for the population of 220,000 B&PS individuals, with a confidence level of 95% and an error margin of 10%), we cannot deem any interpretation of the results to be completely satisfactory.

6. Final Remarks

Audience research has grown exponentially over the past decade in AVT, with a shift from individualised case study reporting that at some point marked the research in AVT to experimental studies (Díaz-Cintas & Szarkowska, 2020; Di Giovanni & Gambier, 2018). These studies apply or adapt traditional methodologies from other disciplines such as cognitive psychology or psycholinguistics to the evaluation and measurement of different factors and forms of access to multimodal texts by the impaired public. These experiments are carried out in different artistic contexts (film or art reception) and replicated in different cultural contexts (different countries, different languages), also contrasting the forms of immersion between populations with and without disabilities.

This dizzying change in research seems to be a parallel phenomenon to that which has been occurring for some years now in viewer experience, in which viewers have gone from being passive recipients (Di Giovanni & Gambier 2018, p. vii) to active consumers. As a result, content creators are increasingly interested in the opinions of all kinds of receptors and audiences in general. They are now interested in consumer trends, technologies used, as well as in expectations, forms of access, and the satisfaction of minority groups who, thanks to social networks and the possibility of delivering messages in a global manner, make their opinions heard. Netflix, for example, has increased its accessible content thanks in part to some pressure groups among its consumers.

This article offers a direct way of dealing with all these interests. The newly created PRA2 platform (localised in Spanish at the moment) offers a unique opportunity to reach these audiences and create all kinds of questionnaires, as well as replicate them in various languages. Its flexible management and distribution of questionnaires makes it possible to carry out all kinds of evaluations and measurements on different accessible audiovisual resources. PRA2 even makes it possible to evaluate and measure different variables of the same product thanks to reception studies under its third block of questionnaires or Q3. The possibilities of triangulation of socio-demographic profiles with consumer trends, habits, as well as with the type of memory, etc., opens up a range of answers that can in turn be used and validated by future studies.

This type of online questionnaires has been done previously, but not within the framework of a platform (Fryer & Romero-Fresco, 2014). However, we are well aware that online studies have to deal with many problems: "difficulties arise in controlling participants' engagements, with fairly high numbers of dropouts for lost interest or technical problems" (Di Giovanni, 2018b, p. 232). The team of researchers leading this platform is truly doing a hard dissemination job that has not always yielded the desired results among impaired audiences, but it keeps on with new dissemination sessions, as well as new research actions, e.g., on easy-language for cognitive disabled people.

References

ADLAB PRO (2017). *Audio description professional: Profile definition*. Retrieved from https://www.adlabpro.eu/wp-content/uploads/2018/04/IO2-REPORT-Final.pdf

Alcañiz, J. E., & Simó, L. (2004). Modelo cognitivo-afectivo de la satisfacción en servicios de ocio y turismo [Cognitive-affective model of satisfaction in leisure and tourism services]. *Cuadernos de economía y dirección de la empresa, 21*, 89–120.

Álvarez de Morales, C., & Jiménez, C. (2016). *Patrimonio Cultural Para Todos: Investigación Aplicada en Traducción Accesible* [*Cultural Heritage for All: Applied Research in Accessible Translation*]. Granada: Tragacanto.

Álvarez de Morales, C., & Limbach, C. (2016). Evaluación formativa y perfil de los usuarios con diversidad funcional visual en el proyecto DESAM [Formative evaluation and profile of users with visual functional diversity in the DESAM Project]. In C. Álvarez de Morales & C. Jiménez. (Eds.), *Patrimonio Cultural Para Todos: Investigación Aplicada en Traducción Accesible* [*Cultural Heritage for All: Applied Research in Accessible Translation*] (pp. 77–98). Granada: Tragacanto.

Asensio, M., Pol, E., & Gomís, M. (2001). *Memoria de Evaluación de los Programas Educativos del Museu Maritim* [*Report on the Evaluation of the Educational Programmes of the Museu Maritim*]. Madrid: U.A.M.

Bardini, F. (2017). Audio description style and the film experience of blind spectators: Design of a reception study. *Rivista internazionale di tecnica della traduzione, 19*, 49–73.

Barnés Castaño, C., & Jiménez Hurtado, C. (2020). El detalle en audiodescripción museística: una aproximación experimental [Detail in museum audio description: an experimental approach]. *MonTI. Monografías de Traducción e Interpretación, 12*, 180–213. https://doi.org/10.6035/MonTI.2020.12.06

Bedny, M., Pascual-Leone, A., Dodell-Feder, D., Fedorenko, E., & Saxe, R. (2011). Language processing in the occipital cortex of congenitally blind adults. *Proceedings of the National Academy of Sciences, 108*(11), 4429–4434. https://doi.org/10.1073/pnas.1014818108

Buhalis, D., & Darcy, S. (Eds.), (2001). *Accessible tourism: Concepts and issues*. Bristol: Channel View Publications.

Burton, H., Diamond, J. B., McDermott, K. B. (2003). Dissociating cortical regions activated by semantic and phonological tasks: A FMRI study in blind and sighted people. *Journal of Neurophysiology, 90*(3), 1965–1982.

Cabezas, N. (2016). *Audiodescripción con apoyo táctil en contextos museísticos: evaluación de una nueva modalidad de traducción accesible* [*Audio Description with Tactile Support in Museum Contexts: Evaluation of a New Modality of Accessibility Translation*] (Unpublished doctoral dissertation, University of Granada, Granada).

Caimi, A. (2006). Audiovisual translation and language learning: The promotion of intralingual subtitles. *The Journal of Specialised Translation*, *6*, 85–98.

Chica Núñez, A. J. (2016). *Traducción de la imagen dinámica en contextos multimodales* [*Translation of the Dynamic Image in Multimodal Contexts*]. Granada: Tragacanto.

De Leeuw, E. D., Hox, J. J., & Dillman, D. A. (2008). *International handbook of survey methodology*. London: Taylor & Francis Group.

Di Giovanni, E. (2018a). Dubbing, perception and reception. In E. Di Giovanni & Y. Gambier (Eds.), *Reception studies and audiovisual translation* (pp. 159–178). Amsterdam: John Benjamins.

Di Giovanni, E. (2018b). Audio description and reception-centred research. In E. Di Giovanni & Y. Gambier (Eds.), *Reception studies and audiovisual translation* (pp. 225–252). Amsterdam: John Benjamins.

Di Giovanni, E. (2018c). The reception of professional and non-professional subtitles: Agency, awareness and change. *Cultus, the Intercultural Journal of Mediation and Communication, 11*, 18–37.

Di Giovanni, E. (2019). Reception studies and audiovisual translation: Eye tracking research at the service of training in subtitling. *Cultus, the Intercultural Journal of Mediation and Communication, 12*, 174–193.

Di Giovanni, E., & Gambier, Y. (2018). Introduction. In E. Di Giovanni & Y. Gambier (Eds.), *Reception Studies and Audiovisual Translation* (pp. vii–xii). Amsterdam: John Benjamins.

Díaz-Cintas, J., & Szarkowska, A. (2020). Introduction: Experimental research in audiovisual translation – Cognition, reception, production. *JoSTrans. The Journal of Specialised Translation, 33*, 3–16.

Ebbinghaus, B. (2005). When less is more: Selection problems in large-N and small-N cross-national comparisons. *International Sociology*, *20*(2), 133–152. https://doi.org/10.1177/0268580905052366

European Commission (2019). Horizon Europe. The next EU research & innovation investment programme (2021–2027). Presentation. Version 21. Retrieved from https://ec.europa.eu/info/sites/info/files/research_and_innovation/strategy_on_research_and_innovation/presentations/horizon_europe_en_investing_to_shape_our_future.pdf

Everett, M. C., & Barrett, M. S. (2009). Investigating sustained visitor/museum relationships: Employing narrative research in the field of museum visitor studies. *Visitor Studies, 12*(1), 2–15. https://doi.org/10.1080/10645570902769084

Falk, J. H., & Dierking, L. D. (2000). *Learning from museums: Visitor experiences and the making of meaning*. Walnut Creek: Altamira Press.

Fernández Iglesias, E., Martínez Martínez, S., & Chica Núñez, A. J. (2015). Cross-fertilization between reception studies in audio description and interpreting quality assessment: The role of the describer's voice. In R. Baños Piñero & J. Díaz Cintas (Eds.), *Audiovisual translation in a global context* (pp. 72–95). London: Palgrave Macmillan.

Fresno, N., Castellà, J., & Soler Vilageliu, O. (2014). Less is more. Effects of the amount of information and its presentation in the recall and reception of audio described characters. *International Journal of Sciences: Basic and Applied Research, 14*(2), 169–196.

Fresno, N., Castella, J., & Soler-Vilageliu, O. (2016). "What should I say?" Tentative criteria to prioritize information in the audio description of film characters. In A. Matamala & P. Orero (Eds.), *Researching audio description: New approaches* (pp. 143–167). London: Palgrave Macmillan.

Fryer, L. (2018a). Psycholinguistics and perception in AVT. In L. Perez-Gonzales (Ed.), *The Routledge handbook of audiovisual translation studies* (pp. 209–224). London: Routledge.

Fryer, L. (2018b). Quality assessment in audio description: Lessons learned from interpreting. In E. Huertas-Barros, S. Vandepitte, and E. Iglesias-Fernández (Eds.) *Quality assurance and assessment practices in translation and interpreting* (pp. 155–177). IGI-Global publications.

Fryer, L., & Romero-Fresco, P. (2014). Audio introductions. In A. Maszerowska, A. Matamala, & P. Orero (Eds.), *Audio description: New perspectives illustrated* (pp. 11–28). Amsterdam: John Benjamins.

Gambier, Y. (2018). Translation studies, audiovisual reception and translation. In E. Di Giovanni & Y. Gambier (Eds.), *Reception studies and audiovisual translation* (pp. 43–66). Amsterdam: John Benjamins.

Hawkins, J. A. (2014). Major contributions from formal linguistics to the complexity debate. In F. J. Newmeyer, & L. B. (Eds.), *Measuring grammatical complexity* (pp. 14–36) Oxford: University Press.

Hill, A. (2018). Media audiences and translation studies. In E. Di Giovanni & Y. Gambier (Eds.), *Reception studies and audiovisual translation* (pp. 3–19). Amsterdam: John Benjamins.

IMSERSO. (2017). *Base de datos Estatal de personas con discapacidad*. Retrieved from https://www.imserso.es/InterPresent1/groups/imserso/documents/binario/bdepcd_2017.pdf

Ishizu, T., & Zeki, S. (2013). The brain's specialized systems for aesthetic and perceptual judgment. *European Journal of Neuroscience*, *37*(9), 1413–1420. https://doi.org/10.1111/ejn.12135

Jiménez Hurtado, C. & Chica Núñez, A. J. (in press). La voz del usuario en la accesibilidad. El caso de los museos para todos [The voice of the user in accessibility. The case of museums for all]. In T. Nava Rodriguez & A. Pazos López (Eds.), *Museos y Universidades. Espacios compartidos para la educación, la inclusión y el conocimiento* [*Museums and Universities. Shared Spaces for Education, Inclusion and Knowledge*]. Gijón: Trea.

Jiménez Hurtado, C., & Martínez-Martínez, S. (2018a). Concept selection and translation strategy. Subtitling for the deaf based on corpus analysis. *Linguistica Antverpiensia, New Series – Themes in Translation Studies. Special Issue: Methods for the study of multimodality in translation*, *17*, 114–139.

Jiménez Hurtado, C., & Martínez-Martínez, S. (2018b). Leisure and culture accessibility: The OPERA Project. *Cultus: The Journal of Intercultural Mediation and Communication*, *11*, 38–60.

Jiménez Hurtado, C., & Seibel, C. (2011). Audiodeskription als Texttyp: eine Korpusanalyse [Audio description as text type: a corpus analysis]. In P. A. Schmitt, S. Herold, & A. Weilandt (Eds.), *Translationsforschung*. *Leipziger Studien zur angewandten Linguistik und Translatologie* [Translational Research. Leipzig Studies in Applied Linguistics and Translatology] (pp. 361–374). Frankfurt: Peter Lang.

Kruger, J. L., & Doherty, St. (2018). Triangulation of online and offline measures of processing and reception in AVT. In E. Di Giovanni & Y. Gambier (Eds.), *Reception studies and audiovisual Translation* (pp. 91–109). Amsterdam: John Benjamins.

Kruger, J. L., Doherty, S., Fox, W., & De Lissa, P. (2018). Multimodal measurement of cognitive load during subtitle processing. In I. Lacruz & R. Jääskeläinen (Eds.), *Innovation and expansion in translation process research*, *267*. Amsterdam: John Benjamins.

Lohr, S. L. (2008). Covering and sampling. In E. D. De Leeuw, J. J. Hox, & D. A. Dillman. *International handbook of survey methodology* (pp. 97–120). London: Taylor & Francis Group.

Luque Colmenero, M. O. (2016). The embodiment of the metaphor: An analysis of the metaphors used to convey the human body in audio descriptive guides of museums for people with visual functional diversity. *E-Aesla, Cuadernos Cervantes, 2*, 326–334.

Moussouri, T. (2007). Implications of the social model of disability for visitor research. *Visitor Studies 10*(1), 90–106. https://doi.org/10.1080/10645570701263479

Oliver, M., & Sapey, B. (2006). *Social work with disabled people*. Basingstoke: Macmillan.

Orero, P. (2016). From DTV4ALL to HBB4ALL: Accessibility in European broadcasting. In A. Matamala & P. Orero (Eds.), *Researching audio description new approaches* (pp. 249–267). London: Palgrave Macmillan.

Orero, P., Doherty, S., Kruger, J-L., Matamala, A., Pedersen, J., Perego, E., Romero-Fresco, P., Rovira-Esteva, S., Soler-Vilageliu, O., Szarkowska, A. (2018). Conducting experimental research in audiovisual translation (AVT): A position paper. *The Journal of Specialised Translation*, *30*, 105–126.

Perego, E., Del Missier, F., & Bottiroli, S. (2015). Dubbing versus subtitling in young and older adults: Cognitive and evaluative aspects. *Perspectives*, *23*(1), 1–21. https://doi.org/10.1080/0907676X.2014.912343

Pettitt, B., Sharpe, K., & Cooper, S. (1996). AUDETEL: Enhancing television for visually impaired people. *British Journal of Visual Impairment*, *14*(2), 48–52. https://doi.org/10.1177/026461969601400202

Ramos Caro, M. (2016). Testing audio narration: The emotional impact of language in audio description. *Perspectives*, *24*(4), 606–634. https://doi.org/10.1080/0907676X.2015.1120760

Ramos Caro, M., & Rojo López, A. M. (2014). "Feeling" audio description: Exploring the impact of AD on emotional response. *Translation Spaces*, *3*(1), 133–150. https://doi.org/10.1075/ts.3.06ram

Ranzato, I. (2019). Gayspeak in the translation classroom. In M. De Marco & P. Toto (Eds.), *Gender approaches in the translation classroom* (pp. 103–126). Cham, Switzerland: Palgrave Macmillan.

Röder, B., Stock, O., Bien, S., Neville, H., & Rösler, F. (2002). Speech processing activates visual cortex in congenitally blind humans. *European Journal of Neuroscience, 16*(5), 930–936. https://doi.org/10.1046/j.1460-9568.2002.02147.x

Seibel, C., & Carlucci, L. (2017). Universidad y Museos juntos hacia la integración social. Presentación del Proyecto CITRA: cultura inclusiva a través de la traducción [University and Museums together towards social integration.Presentation of the CITRA Project: inclusive culture through translation]. In *Accesibilidad y museos: divulgación y transferencia de experiencias, retos y oportunidades de futuro* [*Accessibility and Museums: Dissemination and Transfer of Experiences, Challenges and Opportunities for the Future*] (pp. 157–164). Sevilla: Asociación de Museólogos y Museógrafos de Andalucía (AMMA).

Shakespeare, T. (2010). The social model of disability. In Lennard J. Davis (Ed.), *The disabilities studies reader* (pp. 214–221). New York: Routledge.

Sinnemäki, K. (2011). *Language universals and linguistic complexity: Three case studies in core argument marking* (Unpublished doctoral dissertation, University of Helsinki, Helsinki).

Soler, S. (2012). *Traducción y accesibilidad en el museo del siglo XXI* [*Translation and Accessibility in the Museum of the 21st Century*]. Granada: Tragacanto.

Suojanen, T., Koskinen, K., & Tuominen, T. (2015). *User-centered translation.* London and New York: Routledge.

Sweller, J. (2011). Cognitive load theory. In J. P. Mestre & B. H. Ross (Eds.), *The psychology of learning and motivation: Vol. 55. The psychology of learning and motivation: Cognition in education* (pp. 37–76). Elsevier Academic Press. https://doi.org/10.1016/B978-0-12-387691-1.00002-8

Szarkowska, A., Krejtz, I., Pilipczuk, O., Dutka, Ł., & Kruger, J. L. (2016). The effects of text editing and subtitle presentation rate on the comprehension and reading patterns of interlingual and intralingual subtitles among deaf, hard of hearing and hearing viewers. *Across Languages and Cultures*, *17*(2), 183-204.

Taylor, C. (2016). The ADLAB project: Audio description for the blind. In A. Matamala & P. Orero (Eds.), *Researching audio description: New approaches* (pp. 227–248). London: Palgrave Macmillan.

Tuominen, T. (2018). Multi-method research. In E. Di Giovanni & Y. Gambier (Eds.), *Reception studies and audiovisual translation* (pp. 69–90). Amsterdam: John Benjamins.

Van Selm, M., & Jankowski, N. W. (2006). Conducting online surveys. *Quality and Quantity*, *40*(3), 435–456. https://doi.org/10.1007/s11135-005-8081-8

Walczak, A., & Fryer, L. (2017). Creative description: The impact of audio description style on presence in visually impaired audiences. *British Journal of Visual Impairment, 35*(1), 6–17. https://doi.org/10.1177/0264619616661603

Walczak, A., & Fryer, L. (2018). Vocal delivery of audio description by genre: Measuring users' presence. *Perspectives*, *26*(1), 69–83. https://doi.org/10.1080/0907676X.2017.1298634

Wilken, N., & Kruger, J.-L. (2016). Putting the audience in the picture: Mise-en-shot and psychological immersion in audio described film. *Across Languages and Cultures, 17*(2), 251–270. https://doi.org/10.1556/084.2016.17.2.6

Wright, B., & Schwager, P. H. (2008). Online survey research: Can response factors be improved? *Journal of Internet Commerce*, *7*(2), 253–269. https://doi.org/10.1080/15332860802067730

Wright, K. B. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, *10*(3), 00–00. https://doi.org/10.1111/j.1083-6101.2005.tb00259.x