

Ann Marcus-Quinn · Krzysztof Krejtz ·  
Carlos Duarte *Editors*

# Transforming Media Accessibility in Europe

Digital Media, Education and  
City Space Accessibility Contexts



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Accessibility Contexts

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*Editors*

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# Academic Training in Media Accessibility in Audiovisual Translation at a University Level: The Case of the Spanish University System



Juan Pedro Rica Peromingo 

**Abstract** In today's digital era, media accessibility has emerged as a critical element for ensuring inclusivity in content creation and distribution. With the growing demand for accessible media, academic and professional approaches to training have become instrumental in bridging the gap between content creators and the diverse audience they aim to reach. Academic institutions play a pivotal role in fostering a deeper understanding of media accessibility (MA). Educational programs provide foundational knowledge and critical insights into various aspects of accessibility standards and practices. With the emergence of media accessibility services within the mass media (subtitling for the deaf and hard-of-hearing, SDH, and audio description for the blind and partially sighted, AD, basically), the need for training professionals in these areas has arisen. MA has traditionally been regarded as a subfield in audiovisual translation (AVT) that is focused on audiences with sensory disabilities, mostly persons with a hearing or a visual impairment (Romero Fresco in *Accessible filmmaking: Integrating translation and accessibility into the filmmaking process*. Routledge, 2019). MA may be seen to include AVT and to be just as close to Translation Studies as it is to Film Studies or to the broader area of Accessibility Studies (Greco in *Journal of Audiovisual Translation*, 1(1): 205–232, 2018). This paper will provide answers to how academic training is carried out, what required skills and competencies, together with curriculum design, methodological approaches, training materials, and assessment are needed, how AVT training at a university level is, using the Spanish context and the Universidad Complutense de Madrid (UCM) as an example. Finally, information about those research projects nowadays which investigate media accessibility training used by instructors as reference for their teaching contexts will be included.

**Keywords** Training · Media accessibility · SDH · AD · Teaching · AVT · University

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## 1 Introduction

In today's digital era, media accessibility has become a crucial aspect of content creation and distribution. Ensuring that media is accessible to all individuals, regardless of their abilities or disabilities, is not just a legal and ethical responsibility but also a significant step toward fostering inclusivity (Romero-Fresco, 2015, 2019; Rica Peromingo, *in press* 2024). Training in media accessibility plays a fundamental role in bridging the gap between content creators and the diverse audience they aim to reach. Media accessibility encompasses a range of tools and practices that enable individuals with disabilities to access and comprehend media content. It involves addressing various needs, including visual, auditory, cognitive, and physical impairments. Subtitles, closed captions, audio descriptions, sign language interpretation, accessible web design, and adaptive technologies are among the many tools used to make media accessible (Bogucki & Deckert, 2020, Tamayo, 2022).

Initially, professionals have been originally trained in the workplace (Arrés et al., 2021; Cerezo Merchán, 2019; Granell & Chaume, 2023; Mejías-Climent & Reyes Lozano, 2023). It was only later when universities began offering individual courses in media accessibility programs. Subsequently, degrees in Translation and Interpreting started to emerge in many European countries, with specific subjects on media accessibility (such as SDH and AD) incorporated into these degrees. Today, professionals continue to receive training through specialized courses, such as those offered by ATRAE (the Association for Translation and Audiovisual Adaptation) in Spain. Academics, on the other hand, are trained through subjects in degrees in Translation and Interpreting, Linguistics, and media accessibility in audiovisual translation. (Rica Peromingo, 2016; Silvester & Tuominen, 2021; Valdez et al., 2023).

Media accessibility has, therefore, emerged as a critical element for ensuring inclusivity in content creation and distribution. With the growing demand for accessible media, academic and professional approaches to training have become instrumental in bridging the gap between content creators and the diverse audience they aim to reach. Academic institutions play a pivotal role in fostering a deeper understanding of media accessibility. Educational programs provide foundational knowledge and critical insights into various aspects of accessibility standards and practices. With the emergence of media accessibility services within the mass media (SDH, AD, and sign language interpreting, SLI, basically), the need for training professionals in these areas has arisen. Media accessibility has traditionally been regarded as a subfield in AVT that is focused on audiences with sensory disabilities, mostly persons with a hearing or a visual impairment (Romero-Fresco, 2019). Media accessibility may be seen to include AVT and to be just as close to Translation Studies as it is to Film Studies or to the broader area of Accessibility Studies (Greco, 2018).

Although reference will also be made to professional training in accessibility, this chapter will provide answers on how academic training is conducted, detailing the required skills and competencies, curriculum design, methodological approaches, training materials, and assessment methods needed. It will examine how AVT training is implemented at the university level, using the Spanish context and the Universidad

Complutense de Madrid (UCM) as examples. Finally, it will include information on current research projects investigating media accessibility training, which university instructors use as references for their teaching contexts.

## 2 Media Accessibility: Definition and Components

Media accessibility refers to the strategies, techniques, and technologies used to make various forms of media content, including text, audio, video, and images, accessible to individuals with disabilities (Rica Peromingo, 2022). It aims to remove barriers that may hinder people with disabilities from accessing, understanding, and engaging with digital and traditional media. The importance of media accessibility cannot be overstated. Inclusivity and equal access to information are fundamental principles of a democratic society. Ensuring that media content is accessible to all, regardless of their abilities, is a matter of social justice and a legal requirement in many countries. In this section, the various aspects of media accessibility and its significance in today's world will be examined.

According to some authors, (Matamala & Orero, 2018; Mazur & Vercauteren 2019; Rica Peromingo *in press* 2024), the components associated with media accessibility include the following: closed captions, subtitling, audio description, sign language interpretation, alternative text or description text (Alt Text), accessible web design, and accessible document formats. Let us analyze each of these components:

1. **Closed Captions:** Closed captions provide a textual representation of spoken content, making audio and video content accessible to deaf or hard-of-hearing individuals. This component includes real-time captions for live events (Neves, 2021, Zárate, 2021).
2. **Subtitling:** Subtitles, created for both hearing individuals and those who are deaf or hard of hearing, offer textual translations of spoken content in a different language. This facilitates access and comprehension of multimedia content for individuals with limited language proficiency or certain degrees of hearing impairment (Díaz Cintas & Remael, 2021).
3. **Audio Description:** Audio description is essential for blind or visually impaired individuals. It provides a spoken narrative of visual elements in multimedia content, such as scenes, actions, and facial expressions (Matamala & Orero, 2018, Perego, 2021).
4. **Sign Language Interpretation:** The inclusion of sign language interpretation is crucial for the deaf community. Sign language interpreters convert spoken language into sign language during live events or recorded videos (Romero-Fresco, 2018; Rica Peromingo, *in press* 2024).
5. **Alternative Text or Description Text:** Alternative text is a textual description of images, graphics, and other non-textual elements in digital content. It benefits individuals who use screen readers to access the web (Georgakopoulou, 2019).

6. Accessible Web Design: Ensuring that websites and digital platforms are designed and developed with accessibility in mind is a fundamental component of media accessibility. This includes compliance with WCAG standards (Web Content Accessibility Guidelines) (Bywood, 2020; Georgakopoulou, 2019).
7. Accessible Document Formats: Creating documents in formats that are easily navigable and understandable by screen readers and other assistive technologies is crucial for providing accessible written content (Bywood, 2020; Georgakopoulou, 2019).

We believe that all these components related to media accessibility should be explicitly addressed in audiovisual translation and accessibility classes. Furthermore, these considerations should be incorporated into professional contexts where specialized audiovisual translators are trained with expertise in accessibility (Rica Peromingo, 2019).

### 3 Media Accessibility: Skills and Competences and Legislation

When thinking about the skills and competencies required for the training of academics and professionals in media accessibility, one is referring to those linguistic-cultural and technical aspects that every audiovisual translator should possess (Mazur & Vercauteren, 2019). These aspects are the ones that university educational programs should include regarding the technical knowledge required for the training of scholars and professionals in media accessibility (Rica Peromingo, 2016, 2022). The skills and abilities of every audiovisual and accessibility translator must be framed within a set of priorities (objectives) and constraints (obstacles) that influence the decisions that must be established with each audiovisual text that one may face, and “that must be re-established every time a new translation task is initiated” (Zabalbeascoa, 1997: 331–332). The following skills and abilities, among others, can be highlighted: software use (both professional and free programs), synchronization (subtitles and audio-described text), subtitles spotting, subtitles segmentation, speed, limit for characters per subtitle, ortho-typographical conventions, contextual information, identification of characters, emotions and sounds, music, songs, description, “empty spaces,” tone of voice, intonation, excellent diction, etc. On the other hand, with regard to linguistic and cultural knowledge, university educational programs and professional training courses in media accessibility should cover aspects such as translation strategies, domestication, foreignizing, condensation or suppression of information, adaptation, mastering of the mother language and the target language, cultural elements, and registers.<sup>1</sup>

In addition to the linguistic-cultural and technical aspects just mentioned, it is crucial that the teaching or audiovisual translation and media accessibility also

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<sup>1</sup> For more detailed information on the skills and abilities emphasized in the training of academics and professionals in accessibility in audiovisual translation, refer to Rica Peromingo (2016: 31–42).

includes training in the legislation or norms governing the provision of accessible materials (with SDH, with AD, with sign language interpretation, etc.) for an individual with visual and/or auditory disabilities (Martí Ferriol, 2020). This legislation should provide the rights of individuals with disabilities to access (and enjoy) audiovisual materials on equal terms with the non-disabled population. It should also regulate how accessible audiovisual products are presented for audiences with specific disabilities, such as those with hearing, visual, or cognitive impairments. Some of the international and national legislation (in the USA, the UK, or Australia, for example, in Europe, and particularly in Spain) that should be addressed in the training of expert audiovisual translators in media accessibility include the following (Bogucki & Deckert, 2020; Greco, 2019; Rica Peromingo, *in press* 2024):

- The Disabilities Act of 1990 in the USA, with some amendments in 2008 and specially Chapter 126 on “Equal Opportunity for Individuals with Disabilities,” aimed at “to provide clear, strong, consistent, enforceable standards addressing discrimination against individuals with disabilities”: <https://www.cdc.gov/ncbddd/disabilityandhealth/disability-inclusion.html>.
- The Disability Discrimination Act 1992 in Australia, with some amendments in 2018, aimed at “to promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community: <https://www.legislation.gov.au/Details/C2018C00125>.
- The Equality Act 2010 in the UK, with an update in 2015, aimed at “to eliminate discrimination and other prohibited conduct [...] and to increase equality of opportunity”: <https://www.legislation.gov.uk/ukpga/2010/15/contents>.
- The European Accessibility Act (EAA) approved in March 2019, aimed at “to contribute to the proper functioning of the internal market by approximating the laws, regulations and administrative provisions of the Member States as regards accessibility requirements for certain products and services by, in particular, eliminating and preventing barriers to the free movement of products and services covered by this Directive arising from divergent accessibility requirements in the Member States”: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019L0882>.
- The International Organization for Standardization ISO/IEC TS 20071–21:2015, Part 21 in particular regarding information technology, user interface component accessibility and specifically regulating AD: <https://www.iso.org/standard/63061.html>. At present, there is an international committee with various professional and academic members, including Spanish universities such as the Universitat Autònoma de Barcelona and Universidad Complutense de Madrid, reviewing the standard for the publication of an update in 2024.
- The International Organization for Standardization ISO/IEC TS 20071–25:2017, Part 25 in particular regarding information technology, user interface component accessibility and specifically regulating the audio presentation of text in videos, including captions, subtitles, and other on-screen text: <https://www.iso.org/standard/69060.html>. As with the previous case of the standard regulating AD, in

this instance, there is also an international committee involved in the revision of the standard for the publication of an update in 2024.

- Convention on the Rights of Persons with Disabilities (CRPD), especially Article 9 on accessibility in daily life and also in the media, aimed at “to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity”: <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>.

In the case of the Spanish context, and pending the update and implementation of the European ISO standards, there is specific legislation for the use of SDH, AD, and the use of the Spanish Sign Language interpretation in the media. This legislation will be affected in the near future when European standards on media accessibility become mandatory in the Member States of the European Union. Currently, the standards regulating real Access to the media for individuals with visual or hearing disabilities are as follows (Matamala & Orero, 2010; Rica Peromingo, *in press* 2024; Zhang, 2019):

- Norm UNE 153010 on subtitling for the deaf and hard-of-hearing (SDH) (2012): <https://www.une.org/encuentra-tu-norma/busca-tu-norma/norma/?c=N0049426>. This is the standard that regulates SDH in Spanish media. The initial standard was published in 2003. Subsequently, there was an update in 2012, and since then, it has been the operational standard. As mentioned before, it is currently in the process of being updated.
- Norm UNE 153,020 on audiodescription (AD) (2005): <https://www.une.org/encuentra-tu-norma/busca-tu-norma/norma/?c=N0032787>. This is the standard that regulates AD and audio guides. The standard was published in 2005 and has not undergone any updates since then. Similar to the SDH standard, it is currently in the process of being updated.
- Ley 7/2010, de 31 de marzo, General de la Comunicación Audiovisual<sup>2</sup>: <https://www.boe.es/buscar/pdf/2010/BOE-A-2010-5292-consolidado.pdf>. This standard individually addresses the obligations of audiovisual communication service providers concerning minors and individuals with disabilities, who, in the view of the legislator and European institutions, deserve special protection. Especially important is Article 8 of the law, which is exclusively dedicated to the rights of individuals with disabilities (page 3).
- Estrategia Integral Española de Cultura para Todos. Accesibilidad a la Cultura para las Personas con Discapacidad,<sup>3</sup> published in 2011: [https://www.mdsocialesa2030.gob.es/derechos-sociales/discapacidad/docs/Estrategia\\_Integral\\_Espanola\\_Cultura\\_para\\_Todos.pdf](https://www.mdsocialesa2030.gob.es/derechos-sociales/discapacidad/docs/Estrategia_Integral_Espanola_Cultura_para_Todos.pdf). The Strategy integrates, within a single framework, all the actions and accessibility measures that have been adopted within the scope of the General State Administration in favor of universal

<sup>2</sup> General Law 7/2010, March 31 on Audiovisual Communication.

<sup>3</sup> The Comprehensive Spanish Strategy for Culture for All: Accessibility to Culture for Individuals with Disabilities.

accessibility in the cultural domain. It also envisions new initiatives in cultural environments or activities where needs have been identified, all while following harmonized guidelines and the highest standards of quality, technology, and adaptability. The objective is to ensure, in accordance with the principle of universal design, inclusive cultural services and products that equally serve all individuals regardless of their abilities (page 6).

- Guía de buenas prácticas para la incorporación de la lengua de signos española en televisión,<sup>4</sup> published in 2017: <https://www.siiis.net/documentos/ficha/529550.pdf>. This guide aims, with the invaluable support of end-users, to ensure the quality of sign language services through accessibility and linguistic criteria that meet the needs of deaf and deaf-blind individuals in accessing television content (pages 6–7).

All this international legislation, in conjunction with local and country-specific laws, should be integrated into the curriculum of audiovisual translation and media accessibility education. Technical, linguistic, and cultural knowledge cannot exclusively be the most emphasized aspects in university classes and professional training centers for audiovisual translators. An apparently complex field like legislation in the audiovisual domain becomes essential if one of the aims is to train academics and professionals in accessibility.

## 4 Media Accessibility Training: Methodologies Used

When thinking about the methodologies used for teaching media accessibility, one may be referring to the work that educators must undertake with their learners. Among the methodologies used, training in both technical and linguistic–cultural aspects is recommended. In the tradition of Spanish university contexts, this type of education has focused more on linguistic and cultural issues than on the “technical constraints” that influence the final outcome of the SDH or the AD texts in one way or another (Cerezo Merchán, 2019; Rica Peromingo, 2016). Therefore, trainers are strongly encouraged to explore technical aspects while teaching the linguistic and cultural elements necessary in the translation process. In almost all cases of audiovisual translation, it is the technical constraints that will “force” us to make linguistic modifications in the resulting translated text (Díaz Cintas & Remael, 2021). In the specific classes of audiovisual translation and accessibility at UCM, training begins initially with all the technical constraints that are typical and particular to each of the traditional audiovisual translation modalities (dubbing and subtitling for hearing audiences) and those related to accessibility (SDH and AD, along with sign language interpretation). It is emphasized that, as mentioned before, the technical constraints will influence the linguistic decisions made when translating the audiovisual text into the target language. Once this technical training is completed in class, training shifts

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<sup>4</sup> Guide of Best Practices for the Incorporation of Spanish Sign Language in Television.

to linguistic and cultural constraints in the translation and accessibility of the audiovisual product. In the case of audiovisual translation and accessibility modalities, emphasis is placed on teaching the specific regulations in each of these modalities. This is the proposal that we are implementing in the university setting at UCM.

In our opinion and from our experience in our AVT classes, students in media accessibility should learn to use both professional software (provided it is available for acquisition in the specific educational context) and especially free software that yields fairly accurate results for practicing accessible modes of audiovisual translation: professional programs such as Spot, EZTitles, or OOONA (online subtitling), as well as free software programs like Aegisub (available both for Windows and Mac environments), Subtitle Workshop, iMovie, Audacity, Windows Movie Maker 2024, etc. (Rica Peromingo, 2016).

In technical matters, the main focus should not only be on the use of software programs for SDH or AD or the incorporation of sign language interpretation but also other characteristics more specific to the audiovisual product being dealt with, for instance, visual and auditory coherence, lip synchronization (in the case of dubbing), space synchronization (in the case of subtitles for hearing and subtitles for the deaf), “empty spaces” in audio descriptions, etc.

When dealing with the technical constraints that any audiovisual translation for any modality has to face, the teaching of aspects more related to linguistic and cultural conventions of both the source and the target languages can be interspersed. Students should be familiar with those aspects that are particularly conflictive and may cause translation problems when transferring information from the foreign language into their native language. In the case of the English–Spanish combination, for example, the following aspects can be mentioned: cultural and historical references, intertextuality, phraseological units, periphrasis, proverbs, accent (national, regional, idiolect), interjections, onomatopoeias, wordplay, rhymes, proper and place names, foreignization and domestication, loan terms and calques, orthotypographical norms, among others (Rica Peromingo, 2016). These are the methodologies that, from our point of view, have worked and continue to work in the university setting (specifically at UCM) for the training of academics and professionals in media accessibility.

The methodologies employed should incorporate the use of videos for SDH and AD practice with students, always for educational purposes: films, television series, documentaries, news programs, theater plays, operas, musicals, etc. Within these methodologies, some authors (Cerezo Merchán, 2019) propose the following methods for teaching media accessibility: comparative method (which means to compare accessible versions with non-accessible ones of the same content to highlight the differences and challenges of accessibility), progressive method (in which the instructors will gradually introduce levels of complexity in practicing accessibility, starting with simple subtitles and advancing to audio description and other forms of accessibility), participatory method (which actively involves students in the process of creating accessibility, fostering reflection and critical analysis), collaborative method (which encourages teamwork to address accessibility projects, allowing students to benefit from a diversity of skills and knowledge) and analysis and evaluation method (which develop critical analysis and evaluation skills for audiovisual

content in terms of accessibility). These methods aim to provide students with a comprehensive understanding of the challenges and strategies related to accessibility in media.

Most specialists nowadays prefer competency-based training to AVT, that is, a combination of task- and project-based learning: contrastive, extralinguistic, methodological and strategic, instrumental, and translation problem-solving.

## 5 Media Accessibility Training: Educational Materials, Assessment, and Evaluation

One of the critical aspects in media accessibility training is the type of materials that can be employed in courses (both at the university and professional levels), designed for the education of learners in media accessibility. Within this methodology, a syllabus that encompasses the following progression of content and materials for implementation in the audiovisual translation classes is presented in the following pages.

At the moment, in the AVT and media accessibility classes at UCM, we are using this syllabus as an example of training for academics and professionals in this field. We have been using this methodology and class program for several years in our classes, and it has worked very satisfactorily (see comments on the AVLA and TRADAVAL projects later on). The results of the teaching evaluations by the students have been very positive, emphasizing the fact that in the classes, we promote technical, linguistic, and cultural training, as well as knowledge of the existing regulations in the different AVT modalities taught in the classes (Rica Peromingo, 2019). The contents of the syllabus in question are as follows:

1. A selection of audiovisual materials: video clips from different classic and recent movies, TV series, documentaries, theater plays, operas, news shows, etc.
2. An analysis of the technical and linguistic constraints of the audiovisual product.
3. An anticipation of the problems the trainees may face in the process of the AVT.
4. Training on the software used for both SDH and AD.
5. Research on the conflictive issues encountered in the process.
6. Discussion on the SDH and the AD produced by the trainees.
7. Assessment and evaluation of the trainees and also of the materials used.

At the Universidad Complutense de Madrid, within the framework of audiovisual translation classes, and specifically in the modules addressing media accessibility, we adhere to the outlined syllabus<sup>5</sup> which progressively heightens the difficulty of the activities from both technical and linguistic-cultural perspectives. At the beginning of the academic term, students are provided with this information, gaining awareness of the nature of activities and the effort required well in advance. Furthermore, the

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<sup>5</sup> See Appendix 1 and Appendix 2 for examples of two real activities: one for SDH and another one for AD. Information about the results of the implementation of those activities is also included.

activity objectives, time commitment, and whether the task is to be carried out individually or in a group are explicitly stipulated. Up to the current academic year 2023–2024, the outcomes of this syllabus have yielded highly favorable academic results among students in AVT and MA programs. We are confident that this model can be effectively implemented in other national and international university contexts or in training enterprises for audiovisual translators specializing in media accessibility.

Regarding assessment and evaluation, the evaluation of materials should take place after completing the activities, allowing for the detection of their efficacy in achieving the stated objectives. Assessment of the students/trainees' activities should always be in line with the purposes of the course and the aims of the activities. The proposed syllabus advocates for both formative and summative assessment focusing on the results obtained from the activities and also on the evaluation of errors committed, both technical and linguistic and cultural ones. Finally, discussions and reports after the activities should also be part of the students'/trainees' assessment. All information regarding the outcomes of the activities can be incorporated into the forms used for each of the audiovisual materials employed in the classes. (Bogucki & Deckert, 2020; Rica Peromingo, 2019; Rica Peromingo & Sáenz Herrero, 2019).

In conclusion to this section, a component proposed in this methodology for teaching audiovisual translation and media accessibility is the final evaluation of the students' work by a group of individuals with hearing and visual impairments participating in the research project<sup>6</sup> and the research group<sup>7</sup> I lead at the Universidad Complutense de Madrid. These end-users analyze the production of students in AVT and MA classes to determine if the work has been executed as accurately as possible for a deaf or hearing-impaired audience. Furthermore, they assess whether the SDH and the AD have been created in accordance with legislation and regulations, specially those existing in Spain for SDH and AD. The end-users evaluate all student works by completing questionnaires that encompass technical, linguistic, and cultural data (for more information on the original questionnaires created by the UCM research group and project and some results of those evaluations, refer to Rica Peromingo 2019).

## **6 Media Accessibility Training: Research Projects to Develop Professional and Academic Profiles**

In this final section of the chapter, a list of international research projects (primarily within the European context) and Spanish national projects whose primary objectives are related to accessibility research (SDH, sign language interpretation, and AD) are

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<sup>6</sup> The AVLA (Audiovisual Learning Archive) Project. Information about the research project can be found here: <https://www.avlaproject.com/>.

<sup>7</sup> The UCM Research Group Translation, Audiovisual Translation and Linguistic Accessibility (TRADAVAL). Information about the research group can be found here: <https://www.ucm.es/tradaval/>.

presented. Ultimately, this aims to enable academic researchers and professionals to acquire more specific and up-to-date knowledge regarding the needs of the deaf and blind communities and how to enhance and improve their access to audiovisual products.

In the specific context being analyzed in this chapter (the university setting in Spanish public universities, specifically UCM), the syllabus, materials, evaluation, and methodologies used in audiovisual translation and media accessibility classes have been greatly influenced by the results obtained in the projects and research groups analyzed in the following pages. Specifically, European projects, national projects, and research groups in which the author of this chapter is involved have provided valuable information to design the accessibility courses being taught at the UCM.

The increased involvement and concern for teaching fundamental aspects of media accessibility have led to a significant number of European educational and institutional organizations (particularly in the Spanish context) financing research projects specifically focused on training academics and professionals in audiovisual translation and media accessibility. Some of these research projects are outlined below<sup>8</sup>:

1. Interlingual Live Subtitling for Access—ILSA: ILSA will identify the skills and profile of a new professional, the interlingual live subtitler (ILSer), develop, test, and validate the first training course on interlingual live subtitling (ILS) and provide a protocol for the implementation of this discipline in three real-life scenarios, namely TV, political/social settings, and the classroom. <https://galmaoobservatory.webs.uvigo.es/projects/interlingual-live-subtitling-for-access-ilsa/>.
2. AVLA Project—Corpus of Linguistic Accessibility (CALING): The project (funded by the UCM) consists of the use of new methodologies and technologies applied to the teaching and learning of the different modes of audiovisual translation (AVT), specifically the ones related to accessibility: SDH and AD. The main goal is to design materials, resources, and evaluation processes in order to put into practice these new technologies and methodologies for teaching and learning. <https://www.avlaproject.com/>.
3. CALING Project—*Recursos educativos inclusivos, innovación y lingüística de corpus en accesibilidad en traducción audiovisual (subtitulado para sordos, audiodescripción para ciegos y lengua de signos): el corpus CALING y su aplicación en contextos universitarios* (Inclusive educational resources, innovation, and corpus linguistics in accessibility in audiovisual translation (subtitling for the deaf, audio description for the blind, and sign language): the CALING corpus and its application in university contexts): The project includes the compilation of the CALING corpus (Corpus de Accesibilidad Lingüística) which includes a database of different activities designed by the research group and used in different audiovisual translations university classes to teach the different modes of audiovisual translation: dubbing, subtitling for hearing population, SDH, and AD. The project also includes the evaluation by real recipients of the students'

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<sup>8</sup> The information is taken from the different web pages.

activities compiled in the CALING corpus. <https://docta.ucm.es/entities/publication/029ce137-b676-4666-8063-478159a9e32d>.

4. COST LEAD-ME Project: This Action aims to help all stakeholders in the field of Media Accessibility and cross-cutting topics (e.g., AI and Interactive Technologies) in Europe to meet the legal milestones requested by the recently passed European legislation. Researchers, engineers, scholars as well as businesses and policy makers will be empowered by LEAD-ME with a common and unique platform which will collect, create, share, and disseminate innovative technologies and solutions, best practices, and guidelines, and promote them. Furthermore, it will contribute toward existing and new standards on Media Accessibility among 28 European or associated countries. [https://www.cost.eu/actions/CA19142/?fbclid=IwAR363Utb7p\\_oILGTU15WzFY9U8KM71U\\_FYPyq5Kngf5FrAL9gP2A\\_Upp-Uhc#tabs](https://www.cost.eu/actions/CA19142/?fbclid=IwAR363Utb7p_oILGTU15WzFY9U8KM71U_FYPyq5Kngf5FrAL9gP2A_Upp-Uhc#tabs).
5. ATHENA—Bringing Accessibility and Design for All into Higher Education Curricula: Accessibility and Design for All are the base for more independent living and self-determined participation for people with disabilities, the aging population and many other groups in our society. Accessibility and Design for All are the anchors and entrance points to reach the ultimate goal of more independent living and self-determined participation in all domains, e.g., education, work, politics, administration, culture, leisure/sports, religion, and entertainment. Accessibility, Design for All, and the role of Assistive Technologies are accepted as a fundamental social, political, and legal requirement in an open, democratic, and inclusive society, best expressed with the globally accepted UN-Convention on the Rights of Persons with Disabilities. <https://athenaproject.eu/>.

Finally, and in addition to the aforementioned international and national research projects, it is essential to highlight two research groups that amalgamate the investigative efforts of various scholars, primarily within the fields of translation, audiovisual translation, and media accessibility<sup>9</sup>:

6. Transmedia Catalonia: It aims to research audiovisual translation (dubbing, subtitling, voice-over, etc.) and media accessibility (subtitling for the deaf and hard-of-hearing, respoken, audio description, audio subtitling, and sign language) in various genres, platforms, and supports. After an initial period devoted to descriptive research, its focus is now on user testing and technological implementation. Further information can be found on its website: <https://grupsderecerca.uab.cat/transmedia/>.
7. TRADAVAL UCM Madrid: The Research Group focuses on translation in general, with a specific emphasis on audiovisual translation (AVT) and linguistic accessibility (including subtitling for the deaf, audio description for the blind, and Spanish Sign Language-LSE). The intention is to integrate professional and academic profiles from other language departments within the Faculty of Philology at the Complutense University of Madrid (UCM) and professionals from Spanish Sign Language currently engaged at the UCM's Center

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<sup>9</sup> The information is taken from the different web pages.

for Sign Language Interpretation (CSIM) in the near future. The team comprises researchers and professors in the fields of translation, audiovisual translation, and linguistic accessibility, the majority of whom have collaborated on various national and international research projects as well as UCM's educational innovation initiatives for several years. Further information can be found on its website: <https://www.ucm.es/tradaval/>.

The involvement of professionals and academics in national and international research projects, as well as their participation as members of research groups, is crucial for the training of specialists in audiovisual translation and media accessibility. The outcomes derived from research efforts significantly contribute to their application in both classroom settings and training courses. Simultaneously, this facilitates the cultivation of researchers capable of engaging with national and international standardization organizations (Matamala and Orero, 2018), such as the UNE standards in Spain<sup>10</sup> or the ISO standards within the European context.<sup>11</sup> The comprehensive training of professionals and academics underscores the necessity, as pointed out by Greco (2019: 40), "for a wider discussion on a new model for accessibility education and training, which could then support and be coupled with a new model for accessibility practices. A model of training and practicing that is diversity-based, user-led, proactive-oriented, politically-driven, and quality-centered."

## 7 Conclusion

In this study, the significance of designing educational programs that provide fundamental knowledge and critical perspectives on aspects related to standards and the practice of accessibility essential for the training of academics and professionals in subtitling for the deaf, audio description for the blind, and sign language interpretation has been examined. Following this study, it becomes evident that the field of media accessibility, traditionally considered a secondary aspect of AVT, constitutes an independent area of study that is closely connected not only to AVT but also to Film Studies and Accessibility Studies in general.

The methods employed for the training of audiovisual translators and accessibility professionals in an academic setting have been analyzed. Furthermore, the skills and competencies that, in our assessment at a university level, are requisite for the execution of high-quality academic work and teaching have been discussed. Our investigation has delved into curriculum design, methodological approaches, and materials applicable in AVT and accessibility classes, including those at the master's level. Lastly, with a focus on education in diverse settings, we have identified current international (and national, in the case of Spain) research projects and research groups that exert direct and positive influence on the teaching and learning of specific AVT modalities related to accessibility. Examples of activities (refer to Appendices 1

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<sup>10</sup> Official webpage in English: <https://www.en.une.org/encuentra-tu-norma/busca-tu-norma>.

<sup>11</sup> Official webpage in English: <https://www.iso.org/standards.html>.

and 2), specific methodologies, and real university educational contexts where such teaching approaches are being implemented have been presented.

Another crucial aspect that has been analyzed is the importance of incorporating existing legislation regulating accessibility-related modalities into the training of professionals and academics in audiovisual translation and media accessibility at a university level. This encompasses both local and national perspectives (in our case, Spanish legislation) and an international scope (including the USA, the UK, and Europe). The regulations under consideration pertain to subtitling for the deaf, audio description for the blind, and the inclusion of sign language interpretation. We believe that familiarity with these regulations should be considered an essential skill for every audiovisual translator to acquire during their training.

In conclusion, we assert that academic or professional training in accessibility at a university level necessitates the considerations addressed in this study. In the near future, further exploration is warranted to identify additional requisite skills, assess the current methodological approaches, enhance knowledge concerning legislation pertaining to accessibility modalities, and actively promote the involvement of academics and professionals in ongoing research projects. Ultimately, our role as teachers, AVT academics, professionals and researchers in the field of accessibility, aligns with the United Nations mandate (International Convention on the Rights of Persons with Disabilities,<sup>12</sup> Article 21 “Freedom of expression and opinion and access to information”), which obliges all member states of the European Union “to ensure that persons with disabilities can exercise the right to freedom of expression and opinion, including the freedom to seek, receive, and impart information and ideas on an equal basis with others and through all forms of communication of their choice.”

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## Appendix 1

### *Example of an SDH Activity Sheet: Movie Agora*<sup>13</sup>

1. **Activity Explanation: What It Entails**—The activity involves creating subtitles for the deaf for a scene from the movie *Agora*, which is provided to the students in mp4 format through the virtual platform used for the class. Both linguistic and technical aspects of deaf subtitling and the specific legislation on SDH discussed

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<sup>12</sup> The document can be consulted at <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-persons-disabilities> [retrieved on November 25, 2023].

<sup>13</sup> Official information about the movie: [https://www.imdb.com/title/tt1186830/?ref\\_=nv\\_sr\\_srgs\\_0\\_tt\\_8\\_nm\\_0\\_q\\_agora](https://www.imdb.com/title/tt1186830/?ref_=nv_sr_srgs_0_tt_8_nm_0_q_agora).

in previous classes will be taken into consideration. In contrast to previous activities where students received the movie script, translated it, and adapted the text for subtitles for the deaf and hard-of-hearing population, for this activity, they will receive the original subtitle file for hearing viewers in Spanish and will need to adapt it for SDH using the software program utilized in class.

2. **Necessary Audiovisual Support**—For this activity, we will require the video visualization program (VLC), the subtitling program (Aegisub), and Microsoft Office Word. Connection to the Internet for research will also be needed.
3. **Activity Objectives**—The objectives are to identify translation issues, priorities, and constraints in adapting subtitles for hearing viewers to subtitles for the deaf from both a linguistic–cultural and technical standpoint. Students must pay particular attention to the contextual information in the scene (sounds, noises, music, characters’ way of speaking, feelings, emotions, etc.) essential for its comprehension.
4. **Implementation of the Activity**—Students can collaborate in class to address common doubts, but the actual activity needs to be completed individually at home.
5. **Time Invested in Carrying Out the Activity**—Students will need to view the movie scene clip that needs to be subtitled for the deaf. In class, each student will use the Aegisub software program to work with the subtitles for hearing viewers and adapt them for deaf and hard-of-hearing population (approximately 20 min). Subsequently, a few randomly selected examples from the students in the class will be screened, and their work will be discussed, with particular attention to the technical and linguistic–cultural aspects of the audiovisual product (around 30 min). In the final minutes of the class, students will ask questions of doubts they may have about the activity. After the class, the students will individually upload the file with the SDH to the virtual platform of the course.

**Some Results Gathered from the Practice of the Activity During the Current Academic Year 2023–2024:** Overall, the activity has performed quite well, as students have been able to analyze the process of SDH and the challenges that may arise in creating Spanish subtitles for the deaf, especially from a technical perspective, considering the most significant technical constraints. Evaluation has taken into account how contextual information (essential for a deaf viewer) of the scene has been included and the fact that students worked with a pre-prepared subtitle file for hearing viewers eliminating the need for translation from English to Spanish. The outcome has been quite satisfactory, as students have included this information with considerable precision, adjusting and formatting the SDH quite accurately, even when required to add contextual information. The students’ assignments have also been evaluated by the end-users (a group of deaf people) who are part of the research project under my direction at the Universidad Complutense de Madrid.

## Appendix 2

### *Example of an AD Activity Sheet: Movie 1984*<sup>14</sup>

1. **Activity Explanation: What It Entails**—The activity involves viewing the opening scenes of the movie *1984* and drafting the text in Spanish that will be needed for audio description of the scene. Students are encouraged to be mindful of the technical aspects of the audio description process, consider relevant legislation and regulations on audio description (especially those referenced in Spain), and contemplate the tone of voice and intonation they will employ.
2. **Necessary Audiovisual Support**—For this activity, the students will require a video visualization program (VLC), a voice recording program (Audacity for Windows environments or iMovie for Mac environments), the movie script for the original descriptive information of the scenes, and Microsoft Office Word.
3. **Activity Objectives**—The objectives are to identify the necessary and essential information that must be included for the audio description of the scene, taking into account prior instruction in class regarding this accessibility modality in terms of linguistic, vocal, and technical considerations.
4. **Implementation of the Activity**—Students can collaborate in class to address common doubts, but the actual activity needs to be completed individually at home.
5. **Time Invested in Carrying Out the Activity**—Students collectively watch the scene in class (approximately 5 min) and begin working on the activity individually (around 20 min). Once the preliminary draft of the text deemed suitable for inclusion in the audio description is prepared, it is presented to the rest of the classmates and discussed with them (approximately 30 min). The final minutes of the class will be allocated to address any questions or issues that may have arisen in the process. After the class, the students will individually upload the video file with the AD inserted to the virtual platform of the course.

**Some Results Gathered from the Practice of the Activity During the Current Academic Year 2023–2024:** The activity proved challenging initially, although ultimately, the results of the students' work were highly satisfactory. Consideration was given to conciseness, the application of information condensation techniques, and the summarization of relevant information, emphasizing aspects crucial for audio description for the visually impaired in an audiovisual product. Additionally, from a more technical standpoint, evaluation included the tone (and intonation) of the voice used in the recording, the speed of the description, and the synchronization of the audio-described text with the original oral text of the movie. As in the case of the SDH, the students' assignments have also been evaluated by the end-users (a group of blind people) who are part of the research project under my direction at the Universidad Complutense de Madrid.

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<sup>14</sup> Official information about the movie: [https://www.imdb.com/title/tt0087803/?ref\\_=nv\\_sr\\_srgs\\_0\\_tt\\_8\\_nm\\_0\\_q\\_1984](https://www.imdb.com/title/tt0087803/?ref_=nv_sr_srgs_0_tt_8_nm_0_q_1984).

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