

SIGN LANGUAGE INTERPRETATION IN HBBTV

CONTENTS

1. DEFINITION	2
2. USE OF SIGN LANGUAGE	2
3. TYPES OF SIGN LANGUAGE BROADCASTING	3
4. TYPES OF SIGN LANGUAGE ONSCREEN PRESENTATION	4
5. RECOMMENDATIONS	5



1. DEFINITION

Sign languages (SL) are the primary means for communication used by the Deaf Communities. There are about 70 M sign language users around the world.

Sign language users include deaf, deafblind, hearing-impaired and even hearing individuals. Sign language users identify themselves as a minority linguistic group and culturally belong to the Deaf Community. Moreover, as many minority languages, SLs have a low social and linguistic status. Sign languages are natural languages just like any spoken language, but they differ in the language modality they use. Sign languages are visual-gestural languages. They use several articulators such as the hands and arms, face and most of the upper body parts to convey all linguistic structures. Facial expressions, like eyebrow position, mouthing, head tilts, and shoulder and torso positions are used to convey meaning and grammar in all the linguistic levels.

2. USE OF SIGN LANGUAGE

Sign languages are used to make the auditory information accessible to deaf and deafblind sign language users. They can also be used not only to provide a linguistic equivalence of the spoken word but also to convey relevant audio information.

Sign language in the media should also be used to convey written information on screen. First, because a large section of the deaf and deafblind population can experience difficulty reading because of age, sight conditions or reading skills. But, secondly, also to avoid split attention.

The UN Convention on the Rights of Persons with Disabilities (UN CRPD) recognizes the right of deaf people to access information using their cultural and linguistic communication system, that is their own national sign language. Most deaf and deaf-blind signers are bilingual. Even though -they can access written information, they often prefer to access TV content using their native language, that is their national sign language. One of the reasons is that captions and subtitles, for example, convey written text, but they cannot convey intonation or emotion that are relevant to the media. So sign language and sign language interpretation on TV provide a richer and more equivalent access for users who use sign language as their primary communication system. On the other hand, sign language users also have different levels of literacy and reading speed. This is important because subtitling on TV sometimes has a speed rate that is too fast paced for old signers to access the information through subtitling only.

3. TYPES OF SIGN LANGUAGE BROADCASTING

3.1. RECORDED SIGN LANGUAGE

For non-live broadcasting, the preferred type of service would be a sign language translation rather than a sign language interpretation. Recorded sign language can thus provide the best quality for sign language broadcasting.

In a sign language translation, several stages in the translating process could be planned. Additionally, different agents like deaf expert users, sign language linguists or sign language interpreters could be involved in the different stages of the translation processes. This would grant the maximum quality of the service.

Ideally, the best practice would include mixed teams with deaf and hearing individuals, who would be bilinguals in both the spoken language(s) and the sign language(s) involved in the interpreting or translation process.

For example, in a text-to-sign translation, a hearing individual would do a first translation into sign language and the deaf singer would adapt, re-sign and fine-tune the sign language final text. In the opposite direction, when the translation or interpreting would be from a signed text to a written or spoken text, first, the deaf user could translate into the written form and then the hearing individual would fine-tune the text or rehearse the spoken text.

3.2 LIVE SIGN LANGUAGE

For live programs, sign language translation is not possible and sign language interpretation is the only possible service that can grant access for broadcastingsign language.

In live sign-interpreted programs, two kinds of sign language professionals could be used: a hearing sign language interpreter or a deaf sign language interpreter. Each of these professional profiles has advantages and disadvantages. For example, hearing interpreters can interpret directly from spoken language to sign language and can be auditorily cued, but sometimes they lack native or natural, expressive sign language, whereas deaf interpreters cannot be auditorily cued. Deaf interpreters need to be visually cued, through printed text, shadowing a hearing interpreter or through glosses, which consist of using written text to represent the structure of the SL. When no visual cues are available, the text should be memorized in advance.

3.3 SIGN-PRESENTED PROGRAMS

Sign-presented programs 3.3

Sign-presented programs using a deaf native signer have been described to be the most effective way to include sign language on screen. Normally, sign language used by deaf native signers provide the best linguistic input. Namely, deaf people tend to be more expressive and can adapt to the register more naturally. But also, they can provide a better cultural input. For example, information organization in a spoken language and in a sign language can be different in order and/ or in quality. Additionally, sign-presented programs provide an empowered image of the deaf community and a more normalised view of the sign languages on screen.

3.4 SIGNING AVATAR

Signing avatar 3.4

Signing avatars are virtual signers. The translation systems from spoken language to sign language combine speech-to-text conversion systems, like speech recognition systems, with a text-to-sign translation system that is implemented on a signing avatar that produce that synthesised sign language. Nowadays, more research is needed in the development of all the technologies and linguistic resources involved. Availability and quality of synthetic sign language varies depending on the language and the country.

4. TYPES OF SIGN LANGUAGE ONSCREEN PRESENTATION

Types of SL onscreen presentation 4

There is currently no standardisation regarding sign language onscreen presentation. The most common presentations are threefold:

- Sign language on the main screen (either sign-presented or sign-interpreted)
- Sign language in a box using picture-in-picture technology
- Sign language presented using chroma key technology

5. RECOMMENDATIONS AND GUIDELINES

Recommendations and guidelines 5

5.1. FILMING THE SIGNER

Filming the signer 5.1

First of all, when filming a signer, all broadcasting technical standards should be met. Illumination is specially important, so that the articulators can be seen clearly and there are no shadows or dark parts on or around the signer

When filming the signer, we have to bear in mind the signing space, the shot and the eye-line. The signing space is the space that is in front of the signer that is used to articulate all the signs. This is very important because sign language is a three-dimensional language that uses different active articulators such as hands, arms, shoulders, face, lips and tongue. All these body articulators should be in the shot all the time. Another important thing is that the signing space may vary from language to language, signer to signer, or even within different registers.

When filming the signer, you should:

- a. Check the illumination
- b. Check the size of the signing space with the signer when framing the shot
- c. Use a medium long shot (MLS) to film the signer
- d. Leave some air above the signer's head and on both sides when framing the signer
- e. Use an eye-level camera angle with the signers head at the level of the focus
- f. Use a frontal or a semi-profile shot
- g. Maintain the shot

Additionally, you should:

- h. Avoid shadows on or around the signer
- i. Avoid long shots or close-ups
- j. Avoid cut-offs
- k. Avoid using different shot sizes
- l. Avoid high and low camera angles



Bad example



Bad example

5.2. INTERACTING WITH THE VISUALS AND SCREEN LAYOUT

Sign language on screen implies presenting a visual language on visual media. One of the key concepts to bear in mind is split attention. Deaf signers need to attend to both the signed input and the visual media. To screen readability, is fundamental promoting positive interaction with the onscreen visual information and avoiding negative interaction. The signer creates a positive interaction when relating the signing discourse to the visual information onscreen by pointing to the visuals or incorporating the visual properties of the objects on the screen into the signed discourse. On the other hand, negative interaction is created whenever blockings or obstructions occur. In some occasions, visual information, such as the digital on-screen graphics, captions or subtitles, blocks the signer. It is especially important not to obstruct the facial expressions or the handshapes. On other occasions, it is the signer who blocks, completely or partially, other onscreen visual.

When designing the screen composition, you should:

- a. Facilitate positive interaction between the signer and the onscreen visual information
- b. Provide the interpreter with all the visual information prior to the interpreting/translation service (i.e. clips, graphics, tables, ...)
- c. Let the signer know where the visual information will appear on the screen prior to the interpreting/translation service (i.e. presenters, interviewers/interviewees, clips, graphics, tables,...)
- d. Allow time to attend all the visual information on the screen



Good interaction

Additionally, you should:

- e. Avoid any visual onscreen information blocking the signer
- f. Avoid the signer blocking any of the visual information on the screen.
- g. Avoid overlapping of the signers box, when using picture-in-picture or chroma key technology



Bad example

5.3. COLOUR COMBINATION

Colours contrast and combination is of utmost importance to grant accessibility of sign language on screen. Three different aspects can impact colour interactions, background colour, the signer's clothes colour and the signer's skin colour. The colour combination can greatly affect perception, accessibility, and thus readability. Negative colour interactions can produce eye fatigue to the deaf viewers. Colour contrast and combinations have even a greater impact on accessibility for deaf-blind users. Deaf-blind people that typically use the sign language services are deaf people that have acquired blindness, with low vision or partially-sighted.

Regarding colours, you should:

- a. Provide the signer with clothes that contrast with their skin colour.
(i.e dark clothes for fair-skinned and light colours for dark-skined)
- b. Provide the signer with plain clothes. Preferably, one-colour and plain (with no patterns).
- c. Use a plain, unpatterned background for the signer that contrasts with the signers skin.
- d. Use a dark blue plain background to grant accessibility to the deaf-blind users.



Good example

Additionally, you should:

e. Avoid multi-coloured or patterned clothes

f. Avoid multi-coloured or patterned background

g. Avoid shadows on or around the signer



Bad example



Bad example

5.4. SHAPE AND SIZE OF THE SIGN LANGUAGE ON SCREEN

Deaf signers normally mention the size of the signer to be the most important feature that affects accessibility. It is specially important for older users and deaf-blind users. Size and shape of the signer also reflect and affect the language status.

Regarding size and shape, you should:

- Present a “human-sized” signer
- Use a rectangular-shaped signer’s box, when using picture-in-picture technology
- Provide a box which is at least 1/4th of the screen width



Bad example



Good example



Good example

Additionally, you should

d. Avoid miniturised signers

e. Avoid using circular or egg-shaped boxes, when using picture-in-picture technology



Bad example



Bad example

5.5. POSITION OF THE SIGN LANGUAGE ON SCREEN

When discussing the onscreen position we can differentiate between the left and right positions and also top, central and bottom positions. The most commonly used position is a bottom right position. Preliminary results using eye-tracker measures showed that these left/right positions do not affect readability of the screen. However, it seems that there could be cultural differences regarding side preferences. For example, Spanish deaf signers prefer the signer on the left of the screen, while German signers prefer the signer on the right side. Research has shown that there is a learning effect regarding the right/left positions. That is, the more programs with the same screen layout the users see, the easier to read the different on-screen visuals. On the other hand, central positions seem to facilitate reading the different visuals on the screen. Position choice is normally made by broadcasters using design criteria rather than accessibility criteria. Still more research is needed.

Broadcasted news are the kind of program that many broadcasters choose to make accessible in sign language. Typically, screen composition for news broadcasting includes the visual information, the hearing presenter and the sign language presenter or interpreter. Eye-tracking studies have shown that deaf people do not attend the hearing presenter. Rather they concentrate their attention on the signer and sometimes attend to the main visual information on the screen. For a better accessibility service, the hearing presenter could be avoided so that the sign language could have a more prominent position (sign-presented news), the signer could have a bigger size.

Regarding the screen position, you should:

- a. Use a central position of the screen to present the sign language
- b. Contact your national association of the deaf (NAD) to know if they have a preferred position.
- c. Choose either a right or left position and use it throughout your broadcasted programs
- d. Place the visuals between the signer and the news presenter



Good example

Additionally, you should:

- e. Avoid top and bottom positions
- f. Avoid using different position configurations for different programs
- g. Avoid placing the news presenter between the visual information and the signer



Bad example

5.6. HIRING SIGN LANGUAGE PROFESSIONALS

Broadcasters should only employ qualified interpreters that have the official qualification from each national association of sign language interpreters (NASLI) or that are accredited or registered through their associations. Media interpreters work with a varied audience with different linguistic and cultural backgrounds, and also work with an audience that is not present, so they cannot get feedback from the users. It is therefore very important that broadcasters hire interpreters that are highly experienced, that have worked within a variety, a wide range of different interpreting settings, and that have had exposure to a wide breadth of sign language users, so that they can adjust to a wide range of registers according to the programs and the audiences they are designed for.

Moreover, media interpreters need to be highly skilled interpreters. They should have native-command of the national sign language of the country and they should also have an updated knowledge of the neologisms and terminology of the current events.

Media interpreters have to be highly-skilled in their linguistic abilities, and also in their interpreting skills and strategies. They have to be suitably trained for TV interpreting, that is, they should be familiar with using a teleprompter, signing in front of the camera or having no feedback from users. These are some characteristics that novice interpreters might not be familiar with.

Hiring sign language interpreters, you should:

- a. Contact your NASLI or NAD to learn about the sign language qualifications and training in your country
- b. Hire only qualified, accredited or registered interpreters
- c. Hire signers with native-command of their national sign language(s)
- d. Hire experienced interpreters
- e. Hire highly skilled interpreters
- f. Offer training for signers and interpreters (media technologies)
- g. When casting or recruiting new signers/interpreters always ask for expert advice

Additionally, you should:

- h. Avoid hiring novice interpreters
- i. Avoid hiring untrained or unqualified signers

5.7. PREPARATION TIME AND MATERIALS

Service preparation time is crucial to grant interpreting quality in the visual media. It is of utmost importance that the interpreter has a previous time to prepare the service before the actual interpretation. During this period of time, the visual materials should be provided to the signer/ interpreter. Namely, audiovisual materials, the script, the step outline or the video clips that will be used in the program should be readily available for the interpreter to consult so that the signs can be adjusted to these materials. Remember that sign language is a visual language and the interpreter should interact positively with the visual media. So having these materials in advance is also very important for the service quality to be granted.

Before the sign language interpreting/translation service, you should:

- Provide all the audiovisual materials (clips, graphics, ...)
- Provide the script or step outline
- Allow sufficient time for preparation

Additionally, you should:

- Avoid introducing new visual materials without letting the signer know
- Hiring the signer for the time of the service only



Good example



Good example

5.8. SIGN LANGUAGE PROFESSIONALS WORKING CONDITIONS

Sign language interpretation is a demanding task both physically and mentally. When planning working patterns, the duration and intensity of the tasks suitable breaks should be provided, so that the physical and mental well being of the interpreter is preserved. Under standard working conditions an interpreter's performance is said to degrade after a period of 30 minutes. Interpreting broadcasted news is a very demanding task. They are highly paced and very demanding in terms of neologisms and interpreting strategies. It is much harder than a standard working condition. It is also important that the working environment of the interpreter is appropriate. First of all, when filming an interpreter or signer, all broadcasting standards should be met. The workplace also influences the interpretation quality. The recording should be made in a quiet and private location where there is no visual or auditory distractions that can interfere with the interpreter's job. Also optimal audio and video equipment should be available for the professionals. For example, when appropriate, headset should be provided, teleprompters or microphones, depending on the interpreting service. In fact, accessibility could be vastly compromised if the technical, the linguistic or the information quality are not met.

Working with a sign language interpreter, you should:

- a. Provide breaks appropriately
- b. Provide a private and quiet environment for the interpreter
- c. Provide quality equipment (headset, microphones, teleprompter, ...)

Additionally, you should:

- d. Avoid noisy environments or visual distractions

5.9. DEAF-FRIENDLY TV

In both sign-interpreted and sign-translated services a team of sign language experts should be used. Ideally, deaf sign language users, deaf interpreters, hearing interpreters and sign linguists could be hired.

Broadcasters offering sign language services should contact their NAD and NASLI to make the most of their expertise and also take into account their needs and opinions in all the stages.

When offering sign language services, you should:

- a. Contact your NAD and NASLI
- b. Hire a team of sign language experts including deaf and hearing bilinguals
- c. Establish a long-term relationship with the deaf and deaf-blind community
- d. Create a deaf-friendly user feedback form
- e. Promote a deaf-friendly policy