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**Research Article**

# Subtitling for people with hearing impairments in the Arab world context: The case of *the Blue Elephant 2* movie

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**ABSTRACT**

Although technology advancements have increased the availability of screens everywhere, making it possible to watch AV products anytime, the deaf-and-hard-of-hearing (DHH) accessibility to these materials in the Arab world is still poor. Only a few Arabic movies with this feature are available via Netflix. In this study, the subtitles for the deaf and hard of hearing (SDH) in *The Blue Elephant 2* movie are analyzed. This study qualitatively examines the type of information covered in the subtitles of the investigated Arabic movie for Arab viewers with hearing impairment. It also quantitatively investigates the reactions of people with hearing impairment to the technical aspects of the subtitles using a structured questionnaire, which consisted of five open-ended questions. The qualitative analysis revealed two main types of information, namely, para-linguistic/extra-linguistic and linguistic. The para-linguistic/extra-linguistic aspect includes information about music, speakers, vocal non-linguistic features, and non-verbal signs. The linguistic aspect is related to the code-switching between languages where the speaker may use some languages other than Arabic. The quantitative analysis showed that the participants reacted positively to the technical aspects of the subtitles, including the length and synchrony. They stated that they had enough time to read and process the information included in the subtitles. The paralinguistic information was reflected in the subtitles and helped them better understand the movie. The sample attitude towards SDH was good and positive, and they like to watch more Arabic movies with this feature in the future. This study concludes that more attention to DHH people in terms of accessibility to audiovisual content should be paid. This will likely improve their linguistic and cultural skills and help them integrate more with the surrounding community. The study's findings have substantial implications for enhancing DHH individuals' access to audiovisual content in Jordan and the wider Arab region. The study emphasizes the need to deliver high-quality SDH that incorporates both linguistic and paralinguistic information to DHH viewers in order to improve their viewing experience.

**Keywords:** audio-visual translation, deaf-and-hard-of-hearing, subtitling, Arabic, English

## INTRODUCTION

*Disabled people* are those unable to meet the needs of an average individual life on their own as a result of a part or whole deficiency (United Nations Human Rights, 1975). Under this category, there are people with hearing impairment whom human rights organizations have tried to help enjoy a decent life, regardless of their race, color, sex, language, religion or political views. Although technology advancements have increased the availability of screens everywhere, making it possible to watch AV products and materials anytime, the deaf-and-hard-of-hearing (DHH) accessibility to these materials is still poor. This could be due to the lack of subtitles for deaf-and-hard-of-hearing (SDH).

Nowadays, translation makes more AV products accessible to different people. One of the translation forms that has become popular in the last couple of decades is audiovisual translation (AVT), also known as film translation, versioning, screen translation, and multimedia translation (Gambier, 2013). AVT is a process of transferring verbal (spoken and written) text or nonverbal (body language, gestures, silence, etc.) components in an audiovisual product from one language (source) to another (target) (Chiaro, 2012). Due to technological advancements, AVT as an academic discipline has become popular (Remael, 2010). There are different AVT modes, including subtitling (Abu-Rayyash et al., 2023; Haider et al., 2023; Samha et al., 2023), dubbing (Alrousan & Haider, 2022; Silwadi & Almahasees, 2022), and voiceover (Díaz-Cintas & Orero, 2010), to mention a few. Translation is a vital means of encouraging international exchanges and collaborations and plays a crucial role in fostering cross-cultural understanding as well as interaction. The demand for translation will undoubtedly increase as the world grows increasingly interconnected, opening up exciting new career possibilities for linguists and academics.

The focus of this study is SDH. The researchers examine SDH of an Egyptian movie titled *The Blue Elephant 2*. It explores how a sample of Jordanian DHH reacted to SDH of the Egyptian movie.

Accessibility of audiovisual products is one of DHH's fundamental rights, so more focus should be placed on this area. In Jordan and some other Arab countries, this service is not abundantly available except through subscribing to some streaming services such as Netflix. Subtitlers can translate AV materials interlingually from one language to another or intra-lingually within the same language (Haider & Hussein, 2022). Still, they might have some problems or lack of knowledge when it comes to translating for this group of people. In this study, the researchers examine the status quo of SDH in Jordan by investigating the reaction of Jordanian DHH to this service and analyzing the type of information included in SDH of Netflix.

A few studies have examined SDH and investigated the reaction of Arab DHH groups to this service (Al-Abbas & Haider, 2021; Al-Abbas et al., 2022). However, to the best of the researchers' knowledge, few studies have focused on the required techniques and strategies the subtitlers need when translating to this minority group. This piece of research studies the techniques and strategies subtitlers need when rendering Arabic movies to Arab viewers with hearing impairment.

This study addresses the following two research questions:

1. What is the type of information included in the Netflix Arabic SDH in the Egyptian movie *The Blue Elephant 2*?
2. What is the reaction of the Jordanian DHH sample to the Netflix SDH version of the Egyptian movie *The Blue Elephant 2*?

## LITERATURE REVIEW

This section is two-fold. The first part reviews the theoretical background relevant to AVT. It discusses subtitling as an accessibility tool and provides an overview of strategies and techniques used when subtitling for DHH. The second part discusses some empirical studies related to the topic under study.

Subtitling is a translation process that involves rendering the verbal and non-verbal elements of the dialogue to a written text, usually appearing in the lower part of the screen (Díaz-Cintas & Remael, 2014). One of the subtitling forms is SDH, also known as closed captioning (CC). CC is "one of the various modes within the wider field of AVT that consists of presenting a written text by transcribing the dialogue exchanges, alongside relevant sound effects, music and paralinguistic features for DHH audiences" (Zárate, 2021, p. 23).

Díaz-Cintas and Remael (2014) classified subtitles into three types; *intralingual subtitles,* which render verbal and non-verbal signs in the same language; *interlingual subtitles,* which translate the verbal and non-verbal signs from one language into another; and *bilingual subtitles,* which render verbal and non-verbal signs from one language into two or more languages.

Intralingual subtitling, which is the focus of this study, has five functions. The first function is to help people with hearing impairment have access to AV materials. Second, providing a written text for the spoken interaction on the screen is helpful for second language learners. The third function is related to song lyrics allowing viewers to interact with the song and sing along. Fourth, explaining the different dialects of the same

language. Fifth, intralingual subtitles are helpful when there are announcements in noisy environments like construction places and public places.

SDH improves the DHH-watching experience by providing para-linguistic/extra-linguistic details such as sound effects, music, volume, and tone. The para-linguistic and extra-linguistic nuances are what set SDH apart from other translations. This shows the significance of providing AVT students and translators with the required knowledge and know-how processes of SDH. Neves (2008) stated that training within the educational system for AVT only started in the very late twentieth century and that a specific focus on SDH only emerged in the early years of the twenty-first century.

SDH subtitlers perform a relatively different function when compared to those producing subtitles for people with normal hearing. SDH subtitlers do not adhere to the same subtitling standards. SDH subtitlers, either translating intra-lingually or interlingually, need to be aware of how to render para-linguistic and extra-linguistic features such as sound effects, music, volume, and tone. These features are always used in movies and contribute to their plots.

## SDH Guide with Linguistic and Technical Considerations

Subtitling standards were initially national and established primarily by public service television providers. They became multinational with the emergence of DVD and the growth in commercial television, and they are becoming universal in the age of streaming (Pedersen, 2018). There have been attempts by some researchers to create some rules for the subtitle, among them are Jan Ivarsson and Mary Carroll, who laid the foundation of a subtitling guideline called 'code of good subtitling practice' (Ivarsson & Carroll, 1998).

To make sure that subtitles are accurate, comprehensible, and accessible to the intended audience, SDH guidelines have been created. Using suitable fonts, text layout, and spotting, among many other things, are covered within those guidelines for subtitling. In order to improve the viewing experience for DHH, the guidelines also offer suggestions concerning how to convey sound effects, music, as well as other non-verbal aspects.

Subtitlers should employ fonts and sizes that are easy to read and appropriate for any device used, which entails taking screen size into account. They should maintain subtitles on the screen for a sufficient amount of time for viewers to read them easily. Such an adequate amount of time is calculated depending on the nature of the program, target audience, and average reading pace. Subtitles should use proper line breaks and formatting to make subtitles easier to read and understand. A speaker identification technique should be employed to make it clear who is speaking, in addition to adding sound effects and music descriptions. They should adhere to capitalization rules and not use capitals unless in specific circumstances, for instance, when a character is screaming.

SDH is an important type of accessibility that can help remove the barriers to communication and advance equality. Creators of AV content can guarantee that their work is available to all users–regardless of hearing ability–by adhering to SDH guidelines. In this part, the proposed guidelines by different scholars according to the linguistic consideration, technical consideration, and specific requirements of SDH are investigated.

Due to the nature of the target audience and the limited time and space for the subtitles, it is vital to consider some linguistic aspects, which are part of how subtitlers manipulate the written text to convey the spoken words meaning in the available time and space. In order to have the same viewing experience as hearing audiences, some viewers require verbatim subtitles. However, from a practical standpoint, most DHH viewers have some access to sound, so an exact rewriting of dialogue may be easier to track than an edited one since the same information is received through audio and visual sources (Zárate, 2021).

The linguistic considerations in subtitle production involve a number of steps, including transcription, translation, synchronization, formatting, and quality assurance. Transcription is transcribing spoken words into written text. The transcribed content may, if necessary, be translated into another language. In order for the subtitles to synchronize with the spoken content and show on screen at the appropriate time, they must be timed, and this process is known as synchronization. This is done through subtitling software. Subtitles can be formatted by changing their font, color, and location, and these are also done by subtitling software. Finally, the end subtitles are checked for accuracy, grammatical correctness, and the absence of spelling and punctuation errors. By following these steps, we have some linguistic considerations that must be considered

to ensure good subtitles quality. The main subtitles' linguistic considerations can be divided into text editing, ortho-typographical conventions, segmentation and line breaks, and non-standard English.

People with hearing impairments can view audiovisual material with the help of subtitles, which is a crucial accessibility feature. Technical aspects need to be considered when creating subtitles in order to make them comprehensible, precise, and simple to comprehend. These technical aspects cover things like font size, color, placement, timing, and synchronization. Since subtitles are an essential tool for delivering conversation and other crucial auditory components to viewers who may not be capable of hearing them, they must always be created in a way that is both visually attractive and simple to understand. In order to produce high-standard SDH that improves the watching experience for all viewers, including those who are DHH, it is crucial to comprehend these technical considerations.

The subtitling process, converting spoken words on-screen into written form, is controlled by the spatial and temporal dimensions (Díaz-Cintas, 2013). Therefore, it is more challenging than standard translation because of the constraints placed on subtitle creation (length, number of lines, characters per line, etc.).

## Accessibility

Movies in general and thriller-horror movies in particular use music, sounds, and other features to create the needed atmosphere suspense. They may include incidents of physical violence and psychological terror combined with meaningful sound effects and para-linguistic/extra-linguistic features to provoke the audience's emotions. For people with normal hearing, it is easy to feel the movie's atmosphere and enjoy the sound effects, which contribute to making watching the movie way more enjoyable and engaging. In comparison, viewers with a hearing impairment must assimilate and process the information conveyed in the image and subtitles to access the audiovisual information. This might put more pressure on subtitlers who have limited space and time (Miquel Iriarte, 2017).

Paid movie platforms and 'over-the-top' distributors like Netflix play a significant role in increasing the accessibility for minority groups, including those with hearing impairment, through SDH presenting the dialogue as a text on the screen with additional para-linguistic and extra-linguistic information. There should be more attention to DHH people in terms of accessibility to audiovisual content, which will improve their linguistic and cultural skills, help them integrate more with the surrounding community, and reduce the causes of isolation.

## Legislation on Accessibility

According to research, SDH helps viewers understand and retain knowledge more effectively, which is helpful for both DHH as well as for other viewers. To guarantee that everyone has equitable access to knowledge and entertainment, the European Union has enacted regulations requiring SDH for broadcast entertainment shows and online streaming material.

The Arab world lacks a comprehensive piece of legislation governing the practice of subtitling for DHH because although the Arabs share one language and might face the same difficulties when it comes to this kind of accessibility means, but every country in the area has its own rules and laws governing accessibility for those with disabilities. Nevertheless, certain Arab countries have implemented numerous projects and programs to increase accessibility for DHH. For instance, a regulation mandating all media organizations to include CC or sign language interpretation for their shows was passed in Egypt in 2018. A national law that requires all government entities to offer services in sign language or in writing for people with hearing difficulties was adopted in the United Arab Emirates in 2006. In addition to all of that, several private organizations in the Arab world offer SDH services for various kinds of audiovisual content. These institutions usually collaborate with TV channels or streaming services to make their content available to all viewers, including people who suffer from hearing impairments.

In Jordan, 651,396 people with disabilities might be suffering from a lack of accessibility to audiovisual products, according to Jordanian Statistics (2015). When watching audiovisual programs, Jordanian DHH viewers may run into a number of issues. These issues include the following: first, lack of SDH/CC; many audiovisual programs lack subtitles that translate the program's vocal sounds into written text. This makes it challenging for hearing-impaired people to comprehend what has been said in AV program. Second, poor

SDH quality; even when SDH are available, they may not even be accessible or of good quality. It might involve unreliable SDH, omitting crucial information, or not being visible long enough so that viewers can comprehend them. Third, poor access to assistive technology; DHH Jordanians may not have easy access to devices like cochlear implantation or hearing aids; as a result, they may find it challenging to perceive audio in programs with visual content. Finally, the existence of a cultural barrier as the Jordanian DHH may face cultural barriers and obstacles due to the lack of awareness about DHH requirements and what they need in the Jordanian community.

The Jordanian government has passed laws to encourage accessibility of individuals who have disabilities, including those who suffer from hearing impairments. According to the Jordanian persons with disabilities law (No. 20) of 2017, public and private organizations must guarantee that their buildings, programs, as well as services, are accessible to people with disabilities. Concerning the audiovisual material, Article 31 of the legislation states that All radio and television broadcasts aired in Jordan must have SDH. This regulation applies to all shows created or aired in Jordan by public and private organizations. The Jordanian government has also taken action to encourage the integration of people who are disabled in the media industry in addition to enacting this legislation. For instance, the Jordan Media Institute provides training courses on disability inclusion and rights for journalists and media workers, as well as instruction on how to make content that is available to those with disabilities.

Despite the existence of these laws and the Jordanian government's emphasis on making audiovisual content available to all, including people with hearing impairments, it is crucial to note that these regulations may still be challenging to execute and enforce, so more work will be required to guarantee that all Jordanian citizens with disabilities have equal access to information and audiovisual content.

## Subtitling Movies for the Deaf and Hard of Hearing

In today's society, accessibility in the form of SDH is growing increasingly significant. As the world is becoming broader and more multicultural, everyone must have equitable access to knowledge and entertainment in spite of their hearing ability. SDH involves the production of subtitles that not only render the dialogue but also include extra details, including speaker identification and sound effects, to make the audiovisual content simpler to follow by DHH people.

Movies, like any other audiovisual products, are made of a visual aspect, which is something that can be seen on the screen and the audio, which is an audio track that is added with synchronization to the scene image. Therefore, movies are audiovisual forms that attract different kinds of viewers. Whether they are old or young, healthy or disabled, they are exposed to movies or series and consume them daily.

Making movies available to a larger audience requires that they have SDH. SDH, also known as CC, is one of the subtitling forms. CC is "one of the various modes within the wider field of AVT that consists of presenting a written text by transcribing the dialogue exchanges, alongside relevant sound effects, music and paralinguistic features for DHH audiences" (Zárate, 2021, p. 23).

It's crucial to ensure that everyone can watch movies, including those classified as DHH, as they serve as a form of entertainment and even a learning source. A written copy of the speech, sound effects, and music from the movie are subtitled so that people who are deaf or have hearing loss can read and comprehend it. Through this procedure, DHH people can watch movies alongside others without losing significant details. Movies can now be seen by a wider audience, thanks to the widespread use of SDH in the movie business, which also encourages inclusivity. It is a crucial tool for removing barriers and advancing equality for all by guaranteeing that DHH people can take part in various social and cultural activities.

SDH subtitlers perform a relatively different function when compared to those producing subtitles for people with normal hearing. This is because SDH subtitlers do not adhere to the same subtitling standards. SDH subtitlers, whether they are translating intra-lingually or interlingually, must be aware of how to render paralinguistic features such as sound effects, music, volume, and tone. These features are always used in movies and contribute to their plots.

## Empirical Studies

As previously indicated, little research has been done on the variety of techniques available for Arab SDH subtitlers in general and Jordanian subtitles in particular. Neves (2005) investigated SDH to serve DHH viewers in the Portuguese language and culture context. The researcher proposed a set of guidelines based on the particular concern for adequacy and readability. Such guidelines are said to be helpful for students and trainees to address the needs and requirements of Portuguese DHH viewers. Since the primary goal of this study is to analyze and study SDH produced by a well-known movie service provider and one of the few SDH providers in the Arab world (Netflix) and to propose an Arabic SDH practical guideline, it was beneficial to look into what different cultures would deem vital to include when subtitling for DHH viewers.

Utray et al. (2009) explored the situation of the two most often used media accessibility modes in Spain, namely audio description and subtitling for DHH. The study recounts the history of audio description and subtitling. Additionally, it analyses regulations, legislation, and the operational and financial effects of media accessibility, which deviate from conventional economic norms. Finally, the study concludes by suggesting a wide range of actions that could be implemented to achieve full media accessibility and increase public knowledge of these services, which are already available and will become increasingly so in the future with the switch from analogue to digital transmission. As this study is about subtitling practice, it was beneficial to see how other countries set regulations when it comes to subtitling.

Szarkowska et al. (2016) investigated the effects of subtitle presentation rates (12 vs. 15 characters per second) and text editing (edited vs. verbatim subtitles) on the understanding and reading habits of inter- and intralingual subtitles among 44 deaf, 33 hard-of-hearing, and 60 hearing Polish adult respondents. The eye-tracking study's findings indicate that there is no advantage of shortening subtitle text, especially for deaf and intralingual subtitle viewers. However, verbatim subtitles that were shown at a faster presentation rate had somewhat better results in terms of comprehension, were skipped less frequently, and produced better reading patterns. Participants with DHH demonstrated lesser comprehension than hearing individuals; they also had more fixations per subtitle and lingered on them for longer than hearing participants.

In an effort to better prepare translation students for the workforce, Martins and Ferreira (2019) used a constructivist methodology and chose a sample of nine movies that were the subject of their students' projects over five school years in order to evaluate their students' proficiency. They used a self-made analysis matrix to break down the movies, considering things like spatial and temporal constraints, as well as stylistic, typographic, and translation aspects. The authors concluded that reading speed and subtitle segmentation presented the biggest challenges for their students through this research. This can be connected to this study by demonstrating how crucial it is to take both linguistic and technological considerations into account when teaching subtitling.

Agulló and Matamala (2019) examined the function of immersive media and argued that all users should be able to access them in addition to investigating how subtitles are used in immersive content like 360o videos and VR games. The researchers' findings were based on the feedback of a group of DHH and professional subtitlers. Respondents gave feedback that suggested what SDH for 360o videos should:

(1) be placed in a fixed position and always visible in relation to the field of view,

(2) have a background box to prevent contrast problems with an erratic background, and

(3) used an indicator to show directions whenever the speaker is not in the field of view, including arrows, a compass, or text enclosed in parentheses.

Participants also demonstrated their support and enthusiasm for preserving SDH conventions and laws. They do, however, concur on the need to make some adjustments in order to raise the standard.

During the COVID-19 era, Netflix provided Modern Standard Arabic (MSA) subtitles for some Egyptian movies. Al-Abbas and Haider (2021) examined how adding MSA subtitles to Egyptian vernacular comedy movies affected DHH audience. The researchers compared the quality of the Netflix MSA subtitles and the Egyptian vernacular script of the movie. The researchers also asked a sample group of 40 DHH participants to complete a 12-item questionnaire comprising four constructs to elicit their reactions to SDH. The results showed that intralingual subtitling is crucial to increasing the DHH's access to audiovisual products and their

sense of social inclusion. The study's findings might be helpful for translator training programs and the translation industry.

In another study, during the COVID-19 stay-at-home period, Al-Abbas et al. (2022) looked into how viewers with hearing impairment responded to MSA subtitles of vernacular Arabic films. The Egyptian vernacular film Boushkash's MSA subtitled version was shown to a sample group of 106 deaf participants, who were then asked to complete an 18-item questionnaire on five constructs:

(1) movie-watching habits,

(2) technical considerations,

(3) linguistic and paralinguistic information,

(4) attitudes, and

(5) future actions and recommendations.

Investigation revealed that the participants responded favorably to the intralingual subtitling of Egyptian vernacular films. The subtitles' technical requirements were competent and satisfactory. The paralinguistic details were beneficial since they provided a clearer grasp of the film.

This section analyzed relevant research that provided in-depth explanations of SDH and discussed the theoretical basis of the current study. In the Arab world, notably in the Jordanian media environment, subtitling for DHH has evolved into a method of accessibility and social inclusion. Recently, researchers became interested in SDH field due to the urgent requirement for different AV materials. Due to the lack of local research on SDH in Jordan, this study looked at what DHH viewers feel when viewing a series with SDH and how it differs from the regular version. The study methodology and steps taken to carry out this research are described in detail in the section that follows.

## METHODS AND PROCEDURES

In this section, the researchers describe the methods and sample of the study and the data collection procedure. It outlines the methods of the study, which are quantitative and qualitative in nature. The section concludes by outlining the study procedures.

### Why *The Blue Elephant 2*?

*The Blue Elephant 2* is a well-known Egyptian thriller-horror movie released in 2019 and has an IMDB rating of 8.1 (**Figure 1**). It is the sequel to the widely successful 2014 movie *The Blue Elephant 2*, which was based on

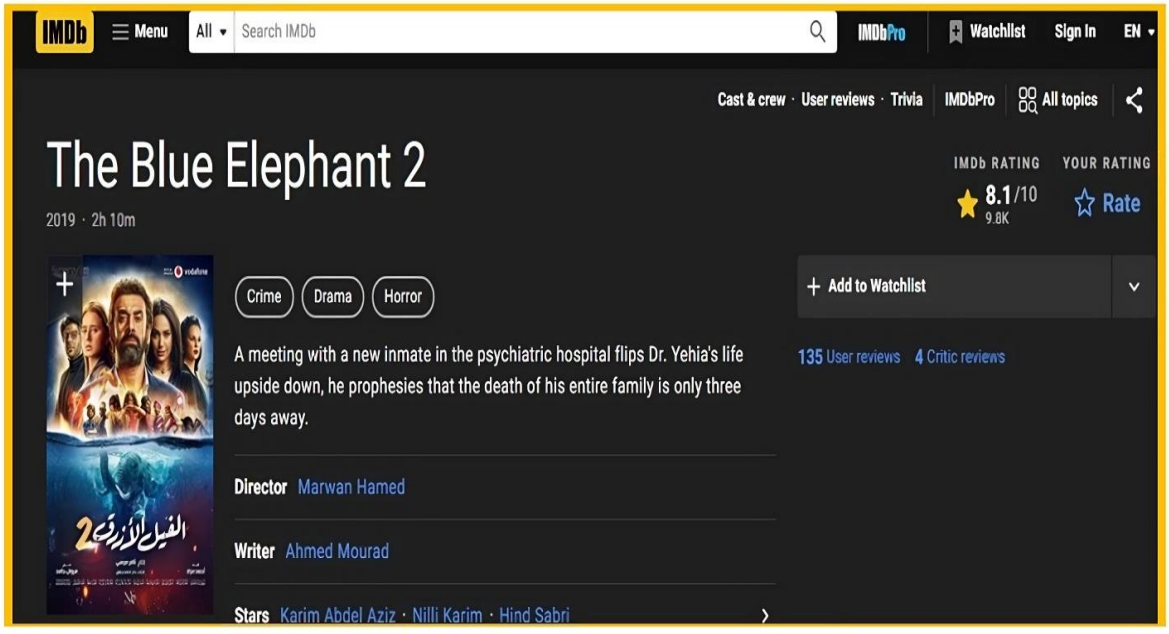


**Figure 1.** *The Blue Elephant 2* IMDB rating (https://www.imdb.com/title/tt10515086/)

the best-selling novel of the same name by Ahmed Mourad. The movie, in general, is a suspenseful thriller with aspects of horror, mystery, and action. It has stunning cinematography, eye-catching special effects, and a haunting, eerie ambience. The plot centers around *Dr. Yehia*, a psychotherapist at Al Abbasia Hospital who treats mentally ill criminals.

Since the research topic is subtitling for Arab DHH, choosing a movie with Arabic SDH was important. A limited number of Arabic movies with this feature are available, primarily accessible via Netflix. *The Blue Elephant 2* was chosen because it included a variety of sounds and sound effects that would allow the researchers to assess the content's accessibility to hearing-impaired people, which includes linguistic and para-linguistic/extra-linguistic information.

## Data Analysis Approaches

This study is qualitative and quantitative in nature.

### *Qualitative approach*

In the qualitative part, the researchers explore and analyze subtitles for DHH in the Egyptian movie *The Blue Elephant 2*. The researchers categorize the subtitles according to the type of information they include, namely, para-linguistic/extra-linguistic and linguistic. The para-linguistic/extra-linguistic aspect includes information about music, speakers, vocal non-linguistic features, and non-verbal signs. The linguistic aspect is related to the code-switching (CS) between languages where the speaker may use some languages other than Arabic.

For DHH viewers, paralinguistic information is essential because it enables them to comprehend the mood and feelings that the audiovisual content conveys in addition to the characters' feelings. The paralinguistic component of the subtitles describes the music that was utilized in the movie, including its genre, tempo, and setting. It also describes non-linguistic vocal elements, including screams, whispers, and laughing, as well as non-verbal cues like body language and facial emotions. On the other hand, the subtitles in *The Blue Elephant 2* have a linguistic component that deals with language CS, where a speaker may shift between two or more languages in a single text or conversation. Other languages besides Arabic, which is the main language in the subtitles, were used in the course of the movie. To guarantee that DHH viewers can understand the dialogue, the subtitles contain some information about the words and phrases used in other languages. This is crucial since it might be difficult for DHH audiences to realize so without providing them with enough information.

In this study, the researchers investigate how Netflix makes sure that DHH viewers may fully enjoy the movie without losing any of the crucial elements by offering such thorough subtitles.

### *Data collection and size*

The subtitles for DHH examined in this study were extracted from Netflix. SDH was in MSA, and the intralingual subtitles were in both MSA and Egyptian vernacular. The number of lines in the examined movie subtitles, including linguistic and para-linguistic/extra-linguistic information, is 1,468 lines (see **Figure 2**).

### *Study procedures*

The procedures and steps that will be followed in the qualitative part are, as follows:

1. Selecting the movie *The Blue Elephant 2*.
2. Extracting the Arabic SDH from Netflix.
3. Identifying scenes with para-linguistic/extra-linguistic elements such as sounds, voices, gestures, loudness, and tone.
4. Identifying the instances of code switches.
5. Categorizing the para-linguistic/extra-linguistic elements based on their themes.

## Quantitative Approach

In the quantitative part, the researchers investigate whether people with hearing impairment understood the plot of the movie with the help of SDH. This part also aims to elicit the DHH sample's reactions to the

| # | Start | End | CPS | Style | Text |
|---|---|---|---|---|---|
| 1 | 0:00:02.08 | 0:00:06.20 | 5 | Default | [موسيقى افتتاحية تقليدية] |
| 2 | 0:00:18.28 | 0:00:21.36 | 5 | Default | [موسيقى افتتاحية] |
| 3 | 0:00:31.12 | 0:00:36.08 | 5 | Default | [صفارات إنذار سيارات الشرطة] |
| 4 | 0:00:38.96 | 0:00:44.60 | 4 | Default | [صفارات إنذار سيارات الشرطة] |
| 5 | 0:00:48.04 | 0:00:52.32 | 5 | Default | [صفارات إنذار سيارات الشرطة] |
| 6 | 0:00:52.40 | 0:00:55.32 | 4 | Default | [فتح باب زنزانة] |
| 7 | 0:00:55.40 | 0:01:02.00 | 2 | Default | [موسيقى ترقب خطر] |
| 8 | 0:01:04.28 | 0:01:08.24 | 3 | Default | [موسيقى ترقب خطر] |
| 9 | 0:01:10.00 | 0:01:15.80 | 2 | Default | [موسيقى ترقب خطر] |
| 10 | 0:01:18.12 | 0:01:22.88 | 3 | Default | [موسيقى ترقب خطر] |
| 11 | 0:01:25.36 | 0:01:31.16 | 2 | Default | [موسيقى ترقب خطر] |
| 12 | 0:01:31.68 | 0:01:34.04 | 17 | Default | [تهدأ الموسيقى] -\N؟هي البت دي مستعبطة فيها ولا إيه |
| 13 | 0:01:38.12 | 0:01:43.72 | 3 | Default | [موسيقى ترقب هادئة] |
| 14 | 0:01:48.92 | 0:01:51.56 | 13 | Default | بيقولوا دبحتي بنتك وجوزك واتتي مش دربانة! |
| 15 | 0:01:58.08 | 0:02:03.24 | 4 | Default | [موسيقى تشويقية تتصاعد] |
| 16 | 0:02:05.72 | 0:02:12.04 | 2 | Default | [تكتكة عقارب الساعة] |

**Figure 2.** Aegisub file for Arabic subtitle with para-linguistic/ extra-linguistic features (Source: Authors)

technical aspects of SDH. The researchers used a structured questionnaire, which consisted of five open-ended questions to explore DHH sample's reactions in this part.

### *Research instruments*

The researchers developed a structured questionnaire to elicit DHH's reactions to SDH. The questionnaire was administered in Arabic, the official language in Jordan. It consisted of five open-ended questions as follows:

1. What do you think of the technical aspects of the subtitles?
2. What do you think of the para-linguistic/extra-linguistic aspects of the subtitles?
3. To what extent did you understand the content of the movie?
4. What is your attitude concerning SDH service of *The Blue Elephant 2* movie?
5. What are your suggestions for future actions concerning SDH service?

Based on the overarching issue they covered, similar replies were grouped together in thematic groups. For instance, the themes of synchronization and subtitle length were grouped under the heading "technical problems." Frequencies and percentages were calculateds using the data from the structured questionnaire.

It is important to note that a group of three specialists in the field of translation studies in general and AVT, in particular, was given the study's questionnaire in order to get their feedback on the structured questionnaire. The jury's comments were considered Before distributing the final version of the questionnaires.

### *Quantitative part sample*

The data of the quantitative part will be derived from the responses of 100 DHH groups. The researchers contacted some centers for DHH in Jordan to obtain the contact details of some members willing to participate in the study. The researchers shared the link with the group via WhatsApp. They were asked to watch *The Blue Elephant 2* movie and then fill in the electronically structured questionnaire. The responses of the first 20 participants were used for piloting and were not used in the analysis of the present study. It is worth mentioning that the questionnaire was administered in Arabic, the official language in Jordan.

### *Study procedures*

The procedures that will be followed quantitatively, as follows:

1. Contacting some Jordanian centers for DHH to get the contact information of some people ready to take part in the study.
2. Providing a Google Drive link for the Netflix SDH Egyptian film *The Blue Elephant 2*.
3. Requesting responses from the participants on a formal survey that is distributed in Jordan's official language of Arabic.
4. To get the participants' opinions on the technical and para-linguistic/extra-linguistic components of the subtitles, as well as their comprehension, attitudes, and suggestions, a questionnaire was created using Microsoft Forms.
5. The researchers employed the snowball sampling technique and urged the participants to share the links with their hearing-impaired friends.
6. There will be 100 deaf participants in the study group of whom 20 will be utilized for piloting, or testing the validity of the questionnaire.

# RESULTS

## Qualitative Analysis and Findings

This section discusses the results related to the qualitative analysis of the movie. To fully access audiovisual content, viewers with hearing loss must assimilate, process, and integrate the information conveyed by subtitles and images (Miquel Iriarte, 2017). Accordingly, sub-titlers must include any audio element accompanying the image.

The study sample included 46 female respondents (46% of the sample) and 54 male DHH recipients (54% of the sample), whose contact information was obtained from Jordanian centers for DHH. 35 of them were between the ages of 25 and 30; 44% were between the ages of 18 and 24; and the rest of the 21 people who participated were above 30. Regarding the country where they are based, all respondents were from Jordan. Only 12 participants have a high school diploma or less, while 88 individuals hold university undergraduate and graduate degrees. 82 of the participants have an excellent or very good reading speed, while the remaining 18 of the study sample have a good reading speed.

In this part, the researchers categorize the para-linguistic/extra-linguistic and linguistic information according to their theme based on other studies' categorizations (see Al-Abbas & Haider, 2021). The para-linguistic/extra-linguistic aspect includes information about music, speakers, vocal non-linguistic features, and non-verbal signs. The linguistic aspect is related to CS between languages where the speaker may use some languages other than Arabic. Due to space constraints, the researchers will only include some examples to clarify the different categories.

## Para-linguistic/Extra-linguistic Information

The parts of spoken communication that do not involve words are referred to as paralanguage. According to Sheth (2017, p. 72), paralinguistic information "involves the various fluctuations in one's voice, such as tone, pitch, rhythm, inflexion, and volume. These cues can have a powerful effect on communication." It is crucial to include paralinguistic details in SDH since they may convey some, if not all, of the meaning. On the other hand, nonverbal cues or signs that come along with verbal communication are referred to as extra-linguistic information. These cues can improve or change the meaning of a language communication. Facial expressions, body language, gestures, and eye contact are examples of extra-linguistic information. The different types of para-linguistic/extra-linguistic information outlined in the methodology section are detailed below.

**Table 1.** Examples of information referring to music & sound effects

| No | Arabic ST | Netflix Arabic SDH | Back translation |
|---|---|---|---|
| 1 | ---------- | [موسيقى تشويقية تصاعدية] | Suspense promoting music |
| 2 | ---------- | [موسيقى خطر تتصاعد] | Danger promoting music |
| 3 | ---------- | [زمجرة كلب] | Dog snarling |
| 4 | ---------- | [ناقوس خطر يدقّ] | Consecutive hazard bell sounds |

**Table 2.** Examples of information referring to the speaker

| No | Arabic ST | Netflix Arabic SDH | Back translation |
|---|---|---|---|
| 5 | فيه حاجة غريبة بتحصل في العنبر! | [رجل متوتر] فيه حاجة غريبة بتحصل في العنبر! | [A nervous man] Something strange is happening in the ward. |
| 6 | "فريدة"! آه! | [امرأة تصرخ] "فريدة"! آه! | [ A woman screaming] Farida! |
| 7 | صباح الخير دكتور "يحيى". | [أكرم] صباح الخير دكتور "يحيى". | [Akram] Good morning, *Dr. Yehia*. |
| 8 | إوعى تنام يا "يحيى". | [شريف وفريدة معًا] إوعى تنام يا "يحيى". | [Sharif and Farida together] Do not sleep, *Yehia*. |

## Information Referring to Music

Music is "a form of communication that can represent human emotions, personal style, geographic origins, spiritual foundations, social conditions, and other aspects of humanity" (Turnbull et al., 2008, p. 67). Cohen et al. (2006) tried to identify if music is important to be included in movies and if it contributes to the viewers' engagement. It has been found that the emotional significance of music can add context to an uninteresting visual image. The idea of congruence considers the effects of common structural traits across media. For instance, a similar musical rhythm and visual motion may call attention to the motion's agency. This can be related to the current research on the importance of subtitling the music and sound effects to the DHH viewers and how the music complements the scene and is an integral part of it; without it, the information will remain incomplete. Horror movies, in particular, include music, sounds, and other para-linguistic/extra-linguistic features to create a terrifying atmosphere in order to build suspense, as **Table 1** shows.

Examples (1 & 2) offer several musical genres and styles corresponding to the events displayed on the screen, preparing the viewer for what will happen after that scene directly or later in the movie. Horror movie producers usually use different musical genres to evoke conflict, discomfort, and/or instability. In Examples (3 & 4), using animal sounds like barking dogs or wolves and alerting danger alarm sounds is very common in horror movies to create excessive fear that suits the overall context. For that purpose, subtitling such sounds will definitely enhance DHH viewers' watching experience. Regarding the method by which Netflix communicates information about music and sound effects to the audience, it can be realized that such information is always enclosed in square brackets.

## Information Referring to Speakers

When DHH viewers watch a movie, it can occasionally be challenging to tell who is speaking, especially when the scene is shot from a distance, characters are not seen on the screen, or multiple speakers are present in the scene. **Table 2** shows some examples of information referring to the speaker.

In example (5), the scene shows a group of men looking into the screen, and suddenly, the room becomes dark, preventing the viewer from knowing who is speaking. The subtitle provided information about who was speaking and gave extra details about how he spoke. The subtitler chose to add the state of the man who is speaking to engage DHH viewer with the scene's horror atmosphere. In example (6), the scene shows police officers' opening the dungeon door carrying their flashlights to see what is going on when suddenly, one of the convicts runs quickly in front of them while yelling Farida, hitting the wall and falling to the ground. Even for viewers with normal hearing, the entire action was crowded with numerous characters, making it challenging to follow. Similar to example (5), the subtitle reveals who is speaking and how she said it to create and amplify suspense and introduce the viewer to the main character Farida. Giving additional information regarding characters' speech in examples (5 & 6) may also fall under the vocal non-linguistic category. Example (7) includes the character's name, which is considered crucial for DHH viewers since it introduces the character to them and helps them understand the plot. In example (8), including the name was important as there were

**Table 3.** Examples of information referring to vocal non-linguistic features

| No | Arabic ST | Netflix Arabic SDH | Back translation |
|---|---|---|---|
| 9 | كده برضو يا "يحيى"، كده برضو ماتسألش عليا كل ده؟ | [بنبرة معاتبة] كده برضو يا "يحيى"، كده برضو ماتسألش عليا كل ده؟ | [In a blaming tone] How come you haven't checked on me in so long? |
| 10 | طالباني بالاسم! | [بتعجب] طالباني بالاسم! | [With astonishment] Wants me specifically? |
| 11 | مالحقتش أبوسهم، مالحقتش أبوسهم! | [تتأوه بصوت خافت] مالحقتش أنقذهم، مالحقتش أنقذهم! | [Groans softly] I did not have time to kiss them. |

**Table 4.** Examples of information referring to non-verbal signs

| No | Arabic ST | Netflix Arabic SDH | Back translation |
|---|---|---|---|
| 12 | يمكن مالحقش! | يمكن مالحقش! [تضحك] | Maybe he did not have the time? [laughing] |
| 13 | وفي فطار باللبس ده؟ | -وفي فطار باللبس ده؟ *[تضحك]* | Breakfast in those clothes? [laughing] |
| 14 | مالقتهاش. | مالقتهاش. [تبكي] | We did not find her [crying]. |
| 15 | على الأرض "هشام" ..."هشام" | *هشام... "هشام" على الأرض [ارتجاف وبكاء]* | [Shivering and crying] And Hesham was on the floor. |
| 16 | انا ماقتلتهمش، انا ماقتلتهمش! | [ببكاء] ماقتلتهمش، ماقتلتهمش! | [In tears] I did not kill them. I did not kill them. |

different voices in the same scene for characters speaking simultaneously. Such information is important to link the subtitle to the right person and avoid confusion.

## Information Referring to Vocal Non-Linguistic Features

The way how the character speaks goes under the vocal non-verbal linguistic category. The study of vocal communication that is unrelated to language is characterized as paralinguistics. This includes elements like voice volume, intonation, pitch, and tone of voice (Hall & Hall, 1986). These types of paralinguistic signs serve specific functions in the dialogue and including them in the subtitle is helpful for DHH as they provide them with high-quality subtitles, as **Table 3** shows.

Examples (9-11) include the speakers' tone of voice. Example (9) showed that the characters know each other very well and have not seen each other for a long time. SDH provided information about how the speaker talks to deliver a sense of familiarity between the characters. In example (10), *Yehia* wondered why someone he had never seen before would ask to see him. Therefore, adding the vocal non-linguistic information emphasized the verbal message. Example (11) refers to the volume of the sound as the character was hopeless and in pain.

## Information Referring to Non-Verbal Signs

Nonverbal signs are any form of communication that can occur in various contexts without the need for verbal cues. Information sharing via nonverbal signs is known as non-verbal communication (Hall & Hall, 1986). There are different types of non-verbal communication, including posture, eye contact, facial expressions, gestures, and body language, in addition to extra-linguistic signs such as laughing, crying, gestures, loudness or tone of voice, or even silence, and many others. The non-verbal signs in movies have different functions, as the characters' posture, speech tonality, eye contact, and gestures all convey important signals in SDH subtitles. They can elicit a relaxed response from DHH viewers and focus their attention more on the character (see **Table 4**).

In example (12), *Farida* was speaking to *Yehia* and then started laughing. *Farida*'s laugh is a non-verbal sign indicating sarcasm and that she knows something no one is aware of which adds to the suspense. Example (13) shows that the subtitler used hyphens to indicate that there are two characters, and one of them laughed. *Yehia* and his wife discussed her way of dressing to go out with friends to have breakfast. The non-verbal information presented by the wife is laughing, which is an unexpected reaction that indicates sarcasm. In example (14), the female doctor stated that Farida had escaped prison. The non-verbal sign information gives hints to the viewer that *Farida's* escape is not the only bad news. In example (15), Farida described the moment she found out that her family was dead. The subtitler described her emotions while saying so. In SDH, it is preferable to subtitle every name repetition because DHH viewers can see the lip movement but cannot

**Table 5.** Examples of linguistic information (code-switching)

| No | Arabic ST | Netflix Arabic SDH | Back translation |
|---|---|---|---|
| 17 | أنا شغال PR manager في شركة عقارات في "التجمع". | أنا شغال [بالإنجليزية] مدير علاقات عامة في شركة عقارات في "التجمع". | I'm a PR manager [In English] for a real estate company. |
| 18 | Maximum وحدة في اليوم. | [بالانجليزية] لا تأخذ أكثر من قرص يوميًا. | Maximum [In English] one pill a day, no more. |
| 19 | أنا ربيت... "فريدة" princess. | أنا ربيت... "فريدة" [بالانكليزية] أميرة. | I raised Farida as a princess [In English]. |

understand what is being said, giving them an uncomfortable feeling that something has been said, but they do not know what it is. This is contrary to the usual subtitling practice, which dictates that subtitlers translate names repetition once due to space and time limitations. It is considered redundant and omitting it does not affect the message and the fact that hearer viewers can hear the repetition. In example (16), the information between the square brackets shows that the character is crying. This indicates sadness and regret. Being unfamiliar of the significance of non-verbal signs, some might argue that non-verbal signs can be easily seen on the screen and do not have a purpose other than adding a more dramatic event to the scene, and so such information is deemed unnecessary.

## Linguistic Information (Code-Switching)

CS is the practice of switching between two or more languages simultaneously or across utterances during a discussion (Elfardy & Diab, 2012). The Arabic movie *The Blue Elephant 2* was produced in the Egyptian vernacular with specific characteristics reflecting Egyptian culture. The Egyptian culture has been influenced by other cultures, and people sometimes use non-Arabic expressions in their daily conversations. The researchers found some subtitles, including English, as **Table 5** shows.

In example (17), the doctor monitoring *Farida*'s case asked a person about his occupation, which was "a public relations manager for a real estate company." The character uses English in responding to the doctor's question to show that he is well-educated and to reflect a kind of high prestige. In example (18), *Yehia* was purchasing a drug called *Blue Elephant*, and the vendor warned him to take more than one pill daily. The use of English is a way to highlight the significance of the subject and the risk involved in taking more than one pill because the issue is health-related. In example (18), the subtitler used MSA rather than Egyptian vernacular in SDH. In example (19), Farida's mother used the English word "*princess*" while talking about her daughter to reflect a high social status. In the three examples discussed above, it was observed that SDH had an Arabic equivalent, along with square brackets indicating that the expressions were used in English in the source text.

## Concluding Statement Related to Qualitative Analysis

The significance of including audio elements in subtitles is emphasized in this part so that viewers with hearing loss can fully access audiovisual material. A framework for generating subtitles is provided by the categorization of para-linguistic/extra-linguistic and linguistic information based on their themes. Subtitlers can improve the watching experience for people with hearing loss by adding speaker-related information, non-linguistic vocal features, music, sound effects, and non-verbal signs. The fact that subtitlers must correctly capture and convey the intended meaning also emphasizes the importance of identifying CS between languages. Overall, this section contributes to the expanding body of research on subtitles for deaf viewers and provides subtitlers with helpful guidance to generate more accessible audiovisual content.

## Quantitative Analysis and Findings

This section discusses the results related to the quantitative analysis based on the DHH's reception of and reaction to SDH. The researchers examined the participants' responses and categorized them based on the theme they covered into five categories, namely, technical aspects, comprehension, para-linguistic/extra-linguistic information, attitudes, and recommendations.

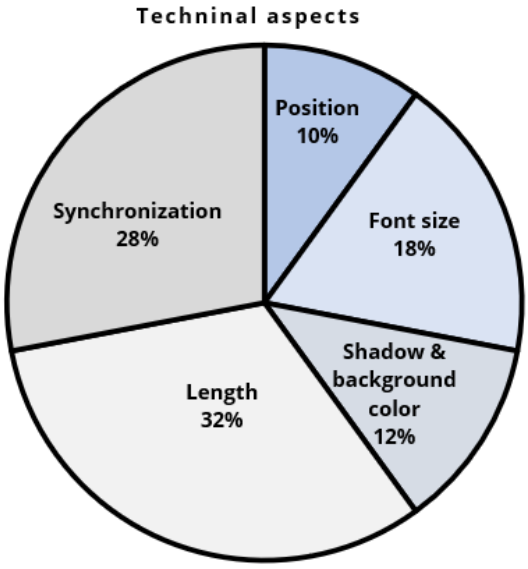


**Figure 3.** Technical aspects of the subtitles (Source: Authors)

## Technical Aspects

This section discusses the participant's responses to the question concerning the subtitles' technical aspects. The responses of the DHH sample to the question '*What do you think of the technical aspects of the subtitles?*' were divided into five main categories, namely the position of the subtitles, font size of the subtitles, shadow and background color of the subtitles, length of the subtitles, and synchronization with the scenes, as **Figure 3** shows.

As **Figure 3** shows, 32% of the participant's responses were related to the length of the subtitles. Some of them stated that the length was relatively good, while others complained that the subtitles were somehow long and recommended that they should not exceed two lines. For instance, participant 2 stated that "occasionally, the subtitles are displayed too fast, making it difficult for me to read them properly. It would be better if they appeared on the screen for just a bit longer". According to participant number 20, "lengthy phrases can be difficult to understand, especially when there is a lot of motion occurring on screen. It is less difficult to read and understand subtitles that are shorter".

The second most discussed issue in the technical part is related to synchronization (28%), where the reactions to this point vary. Some of the participants stated that the subtitles were well synchronized with the scenes. Participant 4 and participant 7, for their part, stated that

> "it is critical for the subtitles to be accurately synchronized with the dialogues in order to prevent confusion and maintain the pace of the narrative, and when subtitles appear too ahead of time or too late, it can be distracting and disrupt understanding of the dialogue. The importance of timing cannot be overstated."

Most of the participants' comments were relatively positive concerning the subtitles' font size (18%), shadow and background color (12%), and position (10%). For instance, participant 6 remarked that "the subtitles were positioned at the bottom of the screen and did not interfere with the visuals," whereas participant 9 stated that "I like it when subtitles have a transparent background so that they do not cover on-screen content."

## Comprehension

In this section, DHH sample's responses to the question concerning the technical aspects of the subtitles are discussed. The responses of DHH sample to the question '*to what extent did you understand the content of the movie?*' were divided into three main categories, namely reading and processing the information, para-linguistic/extra-linguistic information, and conveying all senses, as **Figure 4** shows.

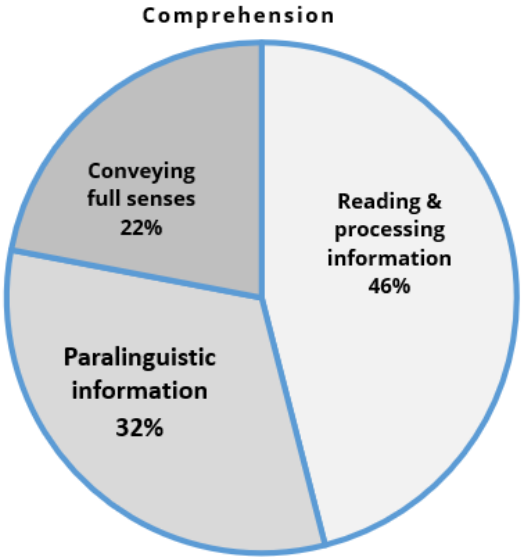


**Figure 4.** DHH sample responses concerning comprehension (Source: Authors)

In this part, 46% of the responses were about having enough time to process the subtitles. A good number of participants stated that they had enough time to read them and process the information included in the subtitles. For instance, participant 1 stated that "with right on time and clear subtitles, I was able to keep up with the conversations smoothly and understand the plot without any difficulty." Meanwhile, participant 13 said that "as a fast reader, I appreciate subtitles that appear and disappear at a reasonable speed, allowing me to consume and think about the information quickly." Concerning the para-linguistic/extra-linguistic information, 32% of participants stated they could understand the subtitles even if the paralinguistic information was missing. However, some participants, specifically 14 and 24, complained that they thought they had missed out on the nuanced nature of the characters' expressions and emotions despite the subtitles providing the language. It would be fantastic if the subtitles also included those paralinguistic hints. Participant 29 stated that "although the subtitles were useful for comprehending the spoken words, a greater explanation of the sounds in the background and other audible cues would have been nice for fully enjoying the movie." Regarding conveying the ideas, a minority of 22% stated that some senses were lost because not all information was included. Regarding conveying the ideas, a minority of 22% stated that some senses were lost because not all information was included. Participant 33 said that "the subtitles, which not only showed the spoken words but also explained crucial visual clues including actions, settings, and nonverbal signs, and helped in comprehending the movie." Participant 1 asserted that "when the subtitles offered context about the scene, such as by describing the tone of the movie, music, or major visual features, it expanded my knowledge and increased the immersion of the movie."

## Para-linguistic/Extra-linguistic Information

In this section, DHH sample responses to the question concerning the paralinguistic information of the subtitles are discussed. The sample's responses to the question '*what do you think of the para-linguistic/extra-linguistic aspects of the subtitles?*' were divided into five main categories, namely aim of paralinguistic information, size of paralinguistic information, music and sound effects, information referring to speakers, CS as **Figure 5** shows.

29% of the responses asserted that the paralinguistic information was reflected in the subtitles and helped them better understand the movie. For example, participant 23 stated that "providing paralinguistic details within the subtitles, such as laughter, gasps, or sighs, assists my comprehension of the character's feelings and reactions." 22% of participants stated that much paralinguistic information was included in the subtitles. This might be a bad indication as it may be exhausting for DHH watching the movie. For example, participant 23 said that "although paralinguistic information is important, it should not take the focus away from the conversation as a whole. The presentation should be done in a way that complements the subtitles while not being distracting." The responses indicated that information referring to the speakers was enough (18%).

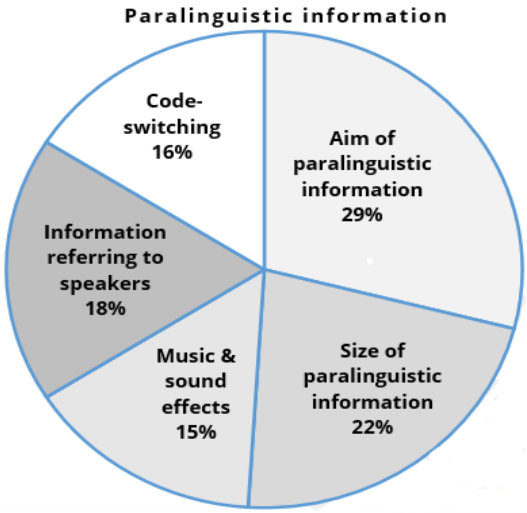


**Figure 5.** DHH sample responses regarding para-linguistic/extra-linguistic information (Source: Authors)

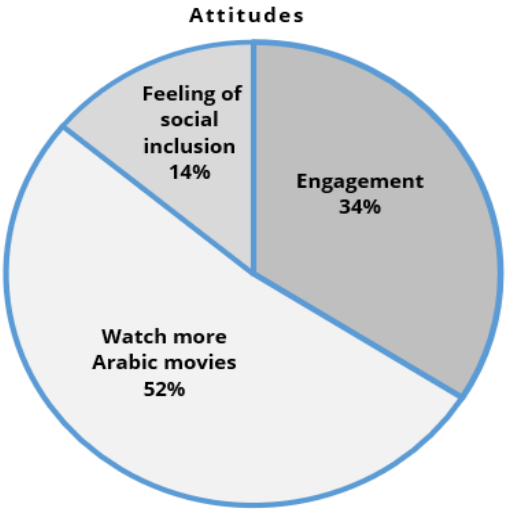


**Figure 6.** DHH sample attitudes to subtitled scenes (Source: Authors)

Participant 26 said "I find it useful, especially in scenes with several characters or group discussions, to know who is speaking." "I can follow the conversation more easily now," said participant 36. "Clear differentiation in the subtitles, such as utilizing different colors or text style for each speaker, assists in recognizing who is speaking at any given time," added participant 36. CS was reflected in the subtitles (16%); For example, participant 44 pointed out that CS can be difficult to follow, so it's crucial for subtitles to clearly state the spoken language and provide clarification when needed. 15% affirmed that the lack of access to music and sound effects was compensated for in the subtitles; for instance, participant 49 said that "subtitles should describe the music and sound effects since they influence the overall mood and can help viewers comprehend the scene."

## Attitudes

In this section, DHH sample attitudes are discussed. The sample's responses to the question '*What is your attitude concerning SDH service of The Blue Elephant 2 movie?*' were divided into three main categories, namely, engagement, watching more Arabic movies, and feeling of social inclusion, as **Figure 6** shows.

The DHH sample's attitudes towards SDH were good and positive. 52% of respondents said they would like to watch more Arabic films with intralingual subtitles in the future. Participant 3 stated, for instance, "the presence of SDH in Arabic movies pushes me to continually look out and watch a greater number of movies from my own region and language. It fosters pride and a sense of belonging." A significant portion of respondents (34%) focused on how they would rate their experience watching the film, which they found to

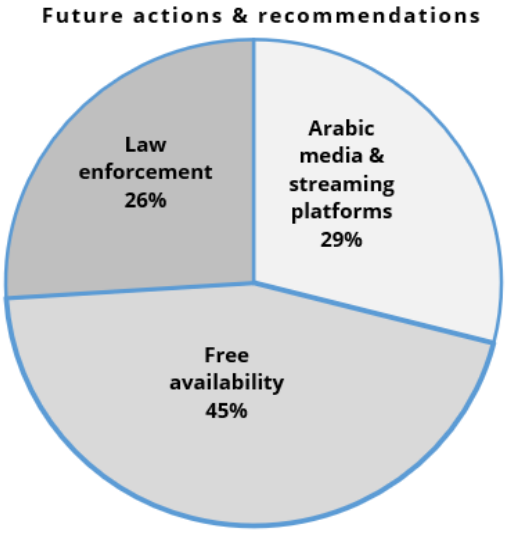


**Figure 7.** Future actions & recommendations (Source: Authors)

be interesting. Taking participant 50 as an example, he said, "having SDH helped me to totally engage myself in the movie without worrying about missing keywords or plot pieces. I was entertained the entire time I watched the movie." A minority claimed that having intralingual subtitles for various Arabic films improved their sense of social belonging (14%). Participants 5, for instance, said that "the inclusion of SDH generates a sense of equality and openness, making me consider myself an active participant in the movie-watching experience instead of an uninvolved observer."

## Future Actions and Recommendations

In this section, DHH sample's recommendations are discussed. The sample's responses to the question '*what are your suggestions for future actions concerning SDH service?*' were divided into three main categories, Arabic media and streaming platforms, free availability, and law enforcement, as **Figure 7** shows.

45% of participants agreed that Arabic movies with subtitles in both languages ought to be free. Participant 16 said that "making SDH services widely accessible and cost-free on a variety of platforms will provide equal access for everybody. It should not be an extra expense or a premium feature." As for participant 23, he said, "the government and funding sources should back efforts that support the free availability of SDH services in order to build a more diverse media landscape." The majority of Arabic media and streaming services should offer closed captions (in Arabic), according to 29% of participants. For instance, participant 30 made the following comment: "I want to see more Arabic forms of entertainment, including movies, TV shows, and internet content, offer SDH as a standard option. DHH community would benefit greatly from being able to access and enjoy local content." As for participant 20, he said, "it would be an excellent step forward to raise awareness among Arabic media makers about the significance of SDH and its beneficial effect on the watching experience for DHH." In a similar vein, 26% of respondents thought that Arab decision-makers should compel Arabic national TV stations to provide intralingual translation in their various programs. For instance, participant 33 said that "establishing rules or laws requiring the availability of SDH for all audiovisual materials would be a big step toward guaranteeing DHH people equal rights and accessibility." Participant 48 stated that "in order to design and enforce extensive laws and regulations for SDH in media, cooperation between relevant authorities, media industry participants, and disability rights organizations is essential."

## Concluding Statement Related to Quantitative Analysis

In conclusion, the quantitative analysis of DHH reactions to SDH gives valuable information about how such subtitles should be in the future. Technical aspects, comprehension, paralinguistic information, attitudes, and suggestions were the five main themes used to categorize the participants' answers in this study. These themes helped the researchers highlight the various aspects that may affect how accessible and effective SDH is for DHH viewers. By considering these notions and implications, subtitlers and content

producers can more effectively adapt their work to the demands and preferences of the DHH community, resulting in a more inclusive and accessible watching experience for all.

## CONCLUSIONS

Examining the type of information included in the Netflix Arabic SDH in the Egyptian movie *The Blue Elephant 2* revealed two main types of information, namely, paralinguistic and linguistic. The paralinguistic side of the subtitles provides details regarding the audiovisual content's nonverbal components, including music, speakers, vocal non-linguistic aspects, and non-verbal cues. For DHH viewers, this kind of information is essential because it enables them to comprehend the mood and feelings that the audiovisual content conveys in addition to the characters' feelings. The paralinguistic component of the subtitles describes the music that was utilized in the film, including its genre, tempo, and setting. It also describes non-linguistic vocal elements, including screams, whispers, and laughing, as well as non-verbal cues like body language and facial emotions.

On the other hand, the subtitles in *The Blue Elephant 2* have a linguistic component that deals with language CS, where a speaker may shift between two or more languages in a single text or conversation. Other languages besides Arabic, which is the main language in the subtitles, were used in the course of the movie. To guarantee that DHH viewers can understand the dialogue, the subtitles contain some information about the words and phrases used in other languages. This is crucial since it might be difficult for DHH audiences to realize so without providing them with enough information.

In conclusion, Netflix makes sure that DHH viewers may fully enjoy the movie without losing any of the crucial elements by offering such thorough subtitles.

The second research question investigates how the Netflix SDH version of the Egyptian movie *The Blue Elephant 2* was received by the Jordanian DHH sample. The quantitative examination of the data showed that the participants responded favorably to SDH subtitles' technical elements. They specifically stated that the length and synchronization of the subtitles were suitable, giving them sufficient time to read and comprehend the content in the subtitles. This is an essential result because, for DHH viewers, the length and synchronization of the subtitles have a significant impact on their ability to understand and enjoy the movie.

Additionally, the participants claimed that the paralinguistic details provided in the subtitles improved their understanding of the movie. The paralinguistic information helped the participants better understand the feelings and moods provided by the audiovisual content. Such a conclusion demonstrates how crucial it is to provide paralinguistic information in subtitles for hearing-impaired and deaf viewers.

The sample as a whole had a good and positive attitude toward SDH function, with the majority of the participants showing an interest in watching more Arabic movies in the future using this feature. This is a noteworthy finding because it shows how the use of SDH in Arabic movies can improve the accessibility of audiovisual content to DHH audiences and raise their enjoyment of the cinematic experience.

In conclusion, the Netflix SDH rendition of the Egyptian movie *The Blue Elephant 2* received positive reviews from the Jordanian DHH sample. They indicated satisfaction with the audiovisual content's overall accessibility, paralinguistic information inclusion, and technical features. These results underline how crucial it is to incorporate SDH into Arabic movies in order to improve the viewing experience for DHH viewers in Jordanian settings.

Further research can be conducted on more than Arabic movies in order to check whether Netflix has consistency when addressing paralinguistic elements presented to DHH Arabic viewers. It is recommended to review existing legislation addressing SDH as an accessibility tool for Jordanian DHH viewers or as an option in various audiovisual mediums such as cinemas, televisions, and others.

The study's findings have substantial implications for enhancing DHH individuals' access to audiovisual content in Jordan and the wider Arab region. The study emphasizes the need to deliver high-quality SDH that incorporates both linguistic and paralinguistic information to DHH viewers in order to improve their viewing experience. The good reaction of the Jordanian sample to the Netflix SDH version of the movie demonstrates the relevance of providing SDH in Arabic as well as the potential of SDH to develop the cultural and linguistic skills of DHH people.

Overall, this study assists in having a better understanding of the challenges and prospects of subtitling for DHH in Jordan, as well as vital insights for enhancing audiovisual content accessibility for this group. The current study's suggestions may guide future efforts to create high-quality SDH that promotes diversity and improves the viewing experience for DHH people in Jordan and worldwide.

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