

A Multisensory Phenomenon:

Cultural Inclusion of the Deaf Community through Adaptive Tools and Poetic Sign Language in the Presentation of the Musical “Mamma Mia” by Forzavu Musicales

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ABSTRACT

Music has traditionally been conceived as an exclusively auditory phenomenon, which has limited its accessibility for individuals with hearing impairments. This article proposes an inclusive perspective that defines music as a multisensory experience, accessible through tactile, visual, and bodily channels. It examines various strategies that enable the deaf community to perceive and enjoy music, such as the use of vibrations, synchronized visual elements, and adapted artistic interpretation.

Furthermore, the role of the interpreter is highlighted as a key mediator in conveying emotional, symbolic, and aesthetic content. From a critical standpoint, the article emphasizes the need to strengthen inclusive practices within cultural spaces by promoting accessible and sustainable environments. It concludes that music is not exclusive to hearing individuals, but rather an artistic expression that, when understood as multisensory, expands its reach and enriches the cultural experience of society as a whole.

Keywords:

Cultural inclusion; deaf community; multisensory music; adaptive tools; poetic sign language; creative interpretation; sign language; sensory diversity; cultural rights.

INTRODUCTION

Throughout human history, music has been present in every culture and nation. It has even been considered a universal language; however, a crucial question arises: what happens when a person is born without the sense of hearing or loses it? Would they not be able to enjoy music if its perception appears to be linked solely to hearing?

This question highlights a limited traditional conception of music, one that is exclusively centered on the auditory dimension and has contributed to the exclusion of the Deaf community from numerous artistic and cultural experiences. In this context, the present essay seeks to challenge this perspective and propose an inclusive approach in which music is understood as a multisensory phenomenon, also accessible through tactile, visual, and bodily channels.

The research conducted within the framework of Arellano's thesis (2025) demonstrates that the musical experience can transcend the auditory domain and become a tactile, visual, bodily, and symbolic experience, thereby expanding

opportunities for the participation of the Deaf community in cultural spaces (see Figure 1).



Figure 1

Sign language interpreter during an inclusive poetic performance of the musical Mamma Mia.

Note. Image created by the *Mente Abierta* editorial team (2025).

Recent studies have also confirmed that music can be perceived through visual and tactile modalities, generating comprehensive experiences for individuals with hearing impairments (Berthold & Loebach, 2021; Gfeller et al., 2019), as evidenced in inclusive stage experiences (see Figure 2).

Music is not perceived solely through hearing, but through the entire body.



Figure 2

Multisensory enjoyment of performing arts: poetic interpretation as a cultural bridge for the Deaf community.

Note. Image created by the *Mente Abierta* editorial team (2025).

Based on these studies, accessibility conditions were improved in the musical event *Mamma Mia*, allowing for a more effective response to the needs of the Deaf community.

This essay promotes awareness of cultural and artistic inclusion, demonstrating that music is not the exclusive domain of hearing individuals, but rather a multisensory phenomenon that can be shared by both hearing and non-hearing audiences.

THEMATIC DEVELOPMENT

Theoretical Framework and Conceptual Approach

Various studies have demonstrated that the perception of music transcends the auditory domain. Even during the fetal stage, human beings perceive sound vibrations through touch and bone conduction prior to the full development of the auditory system (Velandia, 2020).

Historically, inclusive initiatives have also been documented. In 1902, a Deaf actress performed the United States national anthem in sign language in a silent film, demonstrating that sign language can be integrated with artistic expressions (Juan Morera et al., 2020).

Similarly, contemporary research highlights how accessibility in the performing arts promotes inclusion and enriches the cultural experience (Díaz & García, 2019; UNESCO, 2015). These antecedents demonstrate that music can be experienced through multiple senses, challenging the myth that only hearing individuals can enjoy it.

Adaptive Tools and Interpretive Creativity

Arellano's (2025) research identified adaptive tools that facilitate musical perception among Deaf individuals. Balloons, for example, allow users to perceive vibrations through touch due to their light texture and their ability to transmit sound energy. Likewise, lights synchronized with music provide a visual component that complements rhythm and artistic narrative (INFRA, n.d.).

However, material devices alone are not sufficient. The role of the interpreter is essential, as they must convey not only the verbal content but also the emotional, poetic, and figurative nuances of musical lyrics. Art is rich in metaphors, similes, and other rhetorical devices that, if interpreted literally, may lead to confusion for Deaf individuals (Juan Morera et al., 2020).

For this reason, interpretation requires creativity, artistic sensitivity, and a strong connection with the musicians.

Critical Reflection: Toward a Truly Inclusive Culture

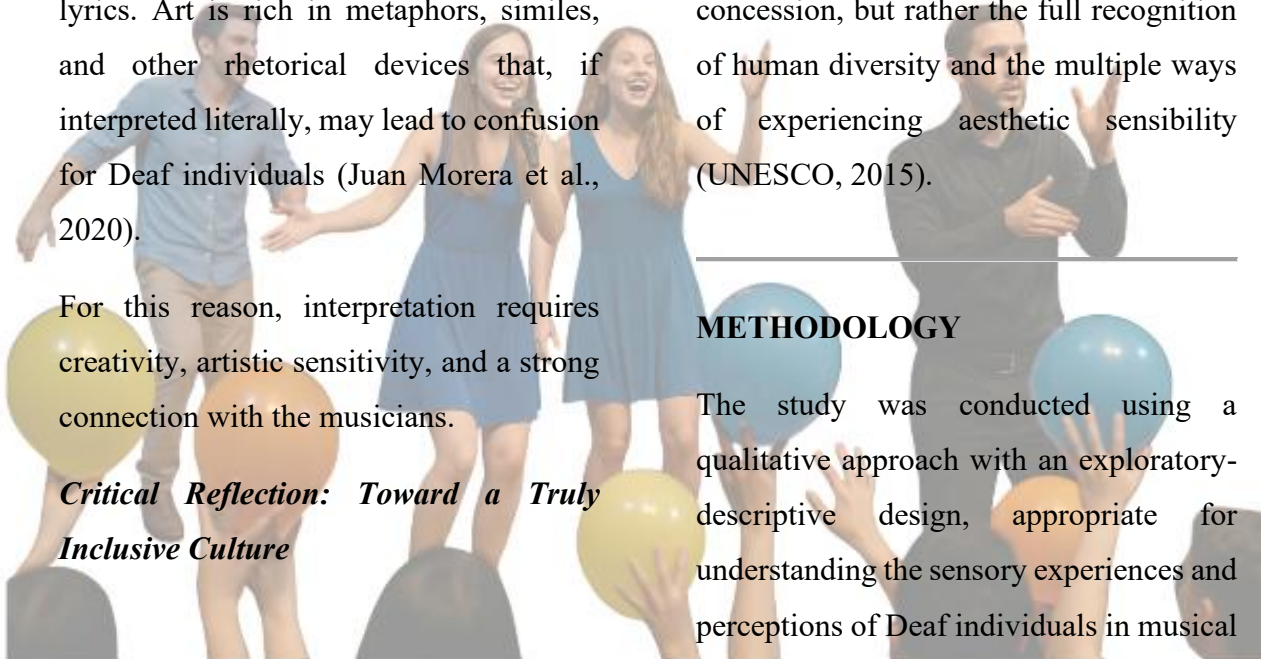
Cultural inclusion requires sustained and responsible commitment from interpreters, artists, cultural managers, and society as a whole. In the Ecuadorian context, although inclusive experiences are beginning to emerge, it is still necessary to consolidate processes that ensure their continuity over time.

Inclusive concerts and performances not only benefit the Deaf community, but also enrich the experience of hearing audiences, who discover new ways of perceiving and experiencing art from a multisensory perspective (Berthold & Loebach, 2021; Díaz & García, 2019).

It is essential to understand that cultural inclusion is not an act of charity or concession, but rather the full recognition of human diversity and the multiple ways of experiencing aesthetic sensibility (UNESCO, 2015).

METHODOLOGY

The study was conducted using a qualitative approach with an exploratory-descriptive design, appropriate for understanding the sensory experiences and perceptions of Deaf individuals in musical



contexts. This type of study enabled the analysis of a relatively underexplored phenomenon, focused on cultural inclusion through adaptive tools, poetic sign language, and figurative language.

The study population consisted of a small group of approximately five Deaf participants who attended a concert by the group *Sensorial*, complemented by the participation of ten individuals in the initial phase through questionnaires. The research context was a natural yet adapted environment—a live musical event—where accessible resources such as balloons for the tactile perception of vibrations and lighting systems for visual support of rhythm were implemented.

Data collection involved various qualitative instruments, including direct observation, questionnaires, brief interviews, and a focus group. Observation was conducted from a strategic point that allowed for the recording of body communication, emotional reactions, levels of attention, and participants' attitudes during the event. Questionnaires and interviews facilitated the collection of both individual and collective perceptions of the musical experience, while the focus

group enabled a deeper exploration of the shared interpretation of that experience.

The procedure included three phases: preparation, fieldwork, and analysis. During the initial phase, the proposal was introduced to the participants; during the event, adaptive tools were implemented and interactions were recorded; finally, the information was systematized through audiovisual records and field notes.

Data analysis was conducted through the categorization of observed patterns, considering variables such as sensory perception, motivation, understanding of the musical message, and the use of figurative language. This approach allowed for the triangulation of the collected data and ensured coherence between the objectives, methodology, and results, facilitating both the understanding and potential replicability of the study.

RESULTS AND DISCUSSION

The findings indicate a high level of interest among the Deaf community in participating in inclusive musical events, provided that appropriate accessibility strategies are implemented. In the initial

phase, 90% of participants expressed interest in attending such events, confirming the potential for the development of inclusive cultural initiatives.

Regarding the perception of music, it was found that 80% of participants recognize music as a form of artistic expression, although their experience is mediated through alternative sensory channels. The study demonstrates that musical perception among Deaf individuals does not depend exclusively on sound, but rather on the integration of tactile, visual, and linguistic stimuli.

One of the most relevant findings is that 40% of participants require a combination of multiple tools—such as balloons, lighting, interpreters, and accompaniment—for a complete experience, while another 40% consider the presence of a sign language interpreter to be sufficient. This suggests that effective inclusion does not rely on a single strategy, but rather on a comprehensive and adaptable approach to different needs.

Additionally, a limited perception of inclusion in the musical field was identified, as 40% of respondents believe that adequate inclusive conditions do not exist, while 60% acknowledge progress mainly in international contexts. This reflects a gap between the interest of the Deaf community and the availability of accessible cultural offerings in the local context.

Overall, the results provide evidence of the importance of designing accessible musical events from an inclusive perspective, highlighting the role of the interpreter, environmental adaptation, and the incorporation of sensory resources. These elements constitute a significant contribution to the field of interpretation and the cultural inclusion of Deaf individuals.

CONCLUSIONS

Promoting an inclusive culture involves recognizing that sensory diversity does not limit art and society, but rather enriches them. Music, understood as a multisensory phenomenon, reveals that the true challenge lies not in disability, but in the

lack of adaptation of cultural environments.

Moving toward accessible performances requires sustained commitment from interpreters, artists, and cultural managers, as well as the incorporation of adaptive tools and specialized training to ensure meaningful and comprehensive artistic experiences for the Deaf community.

Cultural inclusion, in addition to being a fundamental human right, benefits society as a whole, as highlighted by various international frameworks on cultural rights (United Nations, 2006; UNESCO, 2015).

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