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Tàpies' Briefcase Project: Generating Meaningful Experiences for Blind People through Contemporary Art

Fernando Echarri , María Angélica Martínez  and Teresa Barrio 

ABSTRACT

The difficulty of interacting with works of art for people with different abilities is frequently described in specialized literature. In the case of blind and partially blind people (BPP), there are clear difficulties in interacting with artwork through senses other than sight, even though these individuals have the right to access culture. Museums are generally not equipped for this. This hinders the ability to have a high-quality esthetic experience. Museums cannot ignore the rights of blind individuals. Therefore, they should create specific interactive materials that enhance the use of other senses and facilitate a meaningful esthetic experience. This is the goal of the "Tàpies Briefcase Project," implemented at the University of Navarra Museum to promote interaction between BPP individuals and the contemporary artwork "L'esperit català" (1971) by artist Antoni Tàpies.

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Museums as generators of esthetic experiences through visual culture

Museum institutions are aware of the importance of education in contemporary society for the development of individuals and future generations.¹ Nowadays, society focuses on education with a marked inclusivity, which is why museums are now conceptualizing themselves as inclusive. Inclusivity involves adapting the museum to the needs of each person or group, considering diversity and difference.² It also seeks to incorporate an awareness of alterity, fostering a democratic coexistence free of stereotypes and respectful of differences.³ The implementation of this strategic line is not easy. One could even speak of "new foundations,"⁴ as it requires including various contexts such as architecture, furniture, curatorial discourses and educational discourses that include inclusive pedagogical innovations.⁵ Even the objects that the museum includes can be adapted to embrace this inclusivity.⁶ The required changes in these contexts constitute a real challenge for current museum institutions, which have to respond adequately to this social need, knowing that "more than ever museums and galleries are seeking to attract new audiences and find innovative and meaningful ways to engage visitors."⁷

In general, art museums are conceived and prepared to create a visual learning environment⁸ in which visitors can deploy their own interpretive strategies and repertoires.⁹ This "beginning point" in the relationship with artwork through sight is

absolutely generalized. One could say that museums are essentially prepared to be ocular-centric.¹⁰ Art museums generate their discourses through the “visual culture,” a concept established by the Emeritus Professor of Education and Museum Studies at the University of Leicester Eilean Hooper-Greenhill in her consideration of the relationship between the object and subject who contemplates it as the source of the interpretation of the object’s meaning.¹¹ In fact, most curatorial discourses are based on the sense of sight. That is why museums are generally designed to generate esthetic experiences through sight. The general paradigm of museum education is based on “look and learn.”¹² To achieve this, museums use many techniques and methodologies such as slow looking,¹³ visual thinking,¹⁴ or art contemplation,¹⁵ trying to achieve what is known as “refining the eye.”¹⁶

In museums, it is generally through sight that we come to the so-called “esthetic experience.” This is an experience that can be very significant and even transformative. The art that resides in a museum reveals its secrets primarily through sight.¹⁷ The educational dimension of a museum is also widely based on sight. According to the Professor of Education at the University of Balearic Islands María Inmaculada Pastor,¹⁸ museums’ educational programs should focus on encouraging observation and contemplation of artwork, educating the eye to generate esthetic experiences that promote personal development and impart lasting lessons.¹⁹ In summary, museums aim to foster esthetic experiences generated through sight, based on the idea that objects can “speak to the eyes.”²⁰ At this moment, we can say that there is still much to explore about how to generate quality esthetic experiences through senses other than sight.²¹ For example, the possibilities of touch and the power to feel and imagine have been studied since the Enlightenment by “savants” like Diderot.²² For example, there are publications that address the challenge at a theoretical level through declarations and manuals,²³ conferences for sharing practical experiences,²⁴ and articles that discuss specific case studies.²⁵

Is a museum an institution with an inclusive approach that considers blind people?

We must ask some questions, perhaps uncomfortable ones for museums, following the premise of inclusivity: *How can we bring art closer to blind and partially blind people (BPB)?*²⁶ *How can we relate to artwork if we cannot see it? How can we help BPB obtain esthetic experiences?* The answers are not easy, firstly because art has its own ways to interact with people, not always through sight. But in principle, one could think that the relationship is greatly reduced if we cannot use our sense of sight. So, we could turn to the sense of touch, which, in some cases, can provide a lot of information to the visitor. But as is well known, generally the art in museums cannot be touched, except for rare exceptions, such as the Typhlological Museum in Madrid that is defined as a museum to be seen and touched,²⁷ the program “Hoy toca el Prado,”²⁸ the Met’s Touch Collection,²⁹ MoMA’s events,³⁰ and the British Museum’s Touch tour and Object handling.³¹ If we consider that “we learn what we live,”³² it could be said that BPB can live very little in a visual art museum if it is not prepared to support inclusivity.

But what can we do? It seems that the difficulties are many. BPB cannot interact with artwork through sight or touch. However, according to the International Convention on

the Rights of Persons with Disabilities,³³ they have the right to access culture. Clearly, the challenge is enormous for museums. How can museums be inclusive for BPB? How can access to esthetic experiences be provided to this group? There are surely possible strategies, and some attempts have been made to explore in this direction.³⁴

Trying to move forward in this direction, this article presents research on the specific mediation experience between an artwork and BPB, aiming to make the object meaningful and trigger an esthetic experience.³⁵ In the preliminary design of the research, it was clear that any paternalistic/maternalistic vision, stereotype, or prejudice from sighted people toward BPB had to be discarded, such as thinking that “they cannot understand the visual arts.”³⁶ In this sense, it was considered that “visual art is potentially understandable both virtually and perceptually to all people who are blind.”³⁷ Thus, all issues were explored “through the mirror of blindness,”³⁸ aiming to make us aware of how the blind create systems of meaning out of cultural norms and the necessity for the rest of society to approach this way of knowing the world as we try to advance toward an epistemology of non-vision.³⁹ In other words, we must attempt to enhance our knowledge and understanding of what occurs when non-visual experiences are generated. This approach somewhat challenges traditional notions of perception and knowledge. In this way, we can give BPB access to culture, which is related to fundamental issues such as “friendship, dignity, and integration.”⁴⁰ For this, BPB individuals were incorporated into the early investigative phases of the project. This research formulated the following hypothesis:

The creation of a valid communication bridge between diverse users, through the artwork of Antoni Tàpies, by developing an inclusive art mediation box, can help people with total blindness from birth, acquired or with visual weakness (visual residue), have an esthetic experience.

The research formulated the following objectives:

- Objective 1. Generate mediation materials for BPB that allow for high-quality esthetic experiences, facilitating access to physical, sensory, emotional, and cognitive aspects.
- Objective 2. Explore accessible formats for people with blindness.
- Objective 3. Create research materials in an inclusive mediation box format, including aspects of perceiving art through the senses of touch and hearing.
- Objective 4. Provide training in inclusion through the implementation of a practical project with internal students. In this way, students will be able to put into practice the theoretical knowledge acquired in different subjects from degrees in architecture and design, under the guidance of professors from the School of Architecture of the University of Navarra.
- Objective 5. Implement a collaborative project between future female architects and designers, where each, based on their discipline, applies related methods and knowledge.

“Tàpies Briefcase” project: an educational proposal for the visually impaired

The museum in this study is the University of Navarra Museum, a contemporary art museum inaugurated in 2015 that has as its mission building bridges with society.

This inclusive character also involves building bridges with visually impaired visitors. That is why, in January 2023, an investigative-training action was initiated with the aim of bringing contemporary art closer to the visually impaired. To approach this collective, first, several allies were sought to participate and support the project. In this case, they were La Caixa Foundation, ONCE Foundation, Tàpies Foundation, and the School of Architecture of the University of Navarra.⁴¹ La Caixa Foundation is an organization that financially supports social projects. ONCE Foundation is the national organization for BPB people in Spain. Tàpies Foundation is a museum that works about the legacy of the artist Antoni Tàpies. From the beginning, the project was conceptualized as a “co-design,” where collaboration with visually impaired individuals was sought, starting from their real needs and helping in designing and adapting the various materials that were to be generated.⁴²

Second, a structure that could be adapted to the set objectives was sought. The Participatory-Creative Project model with a pedagogical approach was chosen. This pedagogical approach was possible thanks to the participation of the mentioned School of Architecture, where students applied skills acquired in courses such as “inclusive design,”⁴³ which emphasizes socially responsible design and raises awareness of its importance.⁴⁴ A total of five design and architecture undergraduate students participated from the conception of the project to its culmination.

Third, a search was made for potential works that could incorporate “real objects” to potentially facilitate an esthetic experience, despite the difficulties of not using sight.⁴⁵ As a result of this search, the artwork chosen was “L’esperit català” (1971) by Antoni Tàpies



Figure 1. “L’esperit català” (Tàpies, 1971).

(Colección M^a Josefa Huarte, 2015) (Figure 1). This work was considered very interesting and suitable for generating mediation materials that would allow the population to approach it in an inclusive manner, due to its special characteristics. This large-sized work (200 * 275.3 cm) has a prominent material essence, as it was made with marble dust. Its composition is simple, with four red bars on a yellow background. This feature allowed for the inclusion of the sense of touch in the materials that were to be generated, both due to its material nature and its prominent four vertical bars. However, what ultimately influenced the choice of the work was the fact that on its surface, there are also images (an eye and a mouth) and 52 written words and propositions, incised in the solidified marble dust. These contents explicitly refer to universal humanistic values such as “culture, democracy, freedom, and truth.” Thus, in addition to touch, the sense of hearing was included in the generated materials and allowed for the incorporation of explicit content related to the work to be thought and felt by visitors. This feature gives the work a great capacity to convey content that can enable an esthetic experience in both cognitive and emotional spheres. It was thought that the work “[...] can produce strong reactions, and become imbued with meaning, sometimes unexpectedly.”⁴⁶

Fourth, once the artwork was chosen, the project name was selected, “The Tàpies Briefcase” project – an educational program designed to promote esthetic experiences in blind individuals.

The project was created while considering participant adaptation based on the components proposed by the professors at The Florida State University Jacob G. Beard and Mounir G. Ragheb regarding visitor motivation and satisfaction. In that regard, these researchers highlight aspects such as the educational and intellectual challenge in addition to the knowledge gained; the rewarding relationships obtained; or the response to pleasing design and the beauty of environments.⁴⁷ In this way, inclusive and integrative materials were developed that considered the characteristics of blind individuals while aiming to offer experiences in the museum environment,⁴⁸ as suggested by John Dewey.⁴⁹ In this case, it was proposed that the role of the facilitator should be supervisory to avoid interfering with the process.⁵⁰ Specifically, the goal was to introduce visitors to the mentioned artwork through sensory perception, context recreation, and interpretation of contemporary art. As a result of this project, an inclusive artistic mediation box, the so-called “Tàpies Briefcase,” was produced. The parameters of the project developed by the students were defined in the early stages of the research. A fundamental requirement from conception was that all visitors could access the material, regardless of their physical characteristics. The aim was to eliminate, or at least attenuate, sensory and perceptual barriers, and consequently, communication barriers among people. Additionally, it was identified as highly important to use easy-to-read texts, understandable to all audiences including people with intellectual or developmental disabilities and appropriately brief, to convey content in a museum context. With this objective, it was also intended to overcome possible biases of sighted individuals toward the visually impaired and other collectives, placing the artwork at the same sensory and perceptual level.

From the project’s conception, it was critical that the project was not aimed only at the BPB community and rather, was for all visitors. In that sense, the material was designed to facilitate esthetic experiences for all individuals attempting to incorporate the

contributions of other senses, such as hearing and touch. The material was not designed to compensate for a lack of sight, but rather to explore esthetic experiences through the other senses. The ultimate goal was to move from “hands-on” and “ears-on” to “minds-on.” It may be pertinent to recall here Tàpies’ own ideas about participation in art, a topic to which he devoted a section in “El arte contra la estética.” According to Tàpies,

Inconceivable is an art without any spectator, and evident is the idea of participation from the moment a receiver can make the thoughts or feelings their own. A joint operation that begins with the artist and is completed with the emotion experienced by the receiver.⁵¹

Another set of constraints, which also affected the desired level of inclusion, related to the esthetics of the briefcase to facilitate its incorporation into traditional and contemporary museum spaces. Its design had to be limited to the artist’s objects and sculptures, such as the two artworks housed at the Fundació Antoni Tàpies: “Caixó de serradures” (1969) and “= 3” (1993).⁵²

The briefcase was designed based on the aforementioned variables as follows: a rectangular box with a longitudinal tab protruding from the volume. A transparent sticker with the title in braille at the center of the box presents the artwork. The tab allows for intuitive opening by touch and, when opened, creates a kind of table where all mediation materials are displayed on a horizontal base. The other constraints and parameters of the design of mediation materials focused on size, shape, content, color, and textures. In all these variations, it was necessary to consider all possibilities – from visual, auditory, and intellectual deficiencies to total vision – and then test, correct, and innovate. To achieve total inclusion, the size and shape of the interior elements did not matter as long as they adapted to the scaled style of the artwork and offered ease of identification through textures, braille, or sound. Regarding the possibility of written text, the format depended on the readability of braille. The amount of text and the type of paper, with a high gram weight for braille printing, determined the volume of any publication or booklet. Regarding colors, they had to reproduce those of the original artwork to cater to all perceptions within reach of the senses. Additionally, the development of two tactile elements that allowed for the perception of both the broader and more specific aspects of the artwork was a requirement. The first was a miniature reproduction of “L’esperit català” (1971), with some key elements of the painting in relief to be appreciated haptically. These were later defined in the process as the four central red bars of the painting, an eye, and lips. Alongside these more figurative elements, four capitalized words enabling a dialogue on positive and cohesive values were transcribed into braille and mentioned above: CULTURE, TRUTH, FREEDOM, and DEMOCRACY. The second tactile element was a sample of the textured painting with scratches. The texture had to be reproduced with marble dust, white glue, and synthetic paint on a tablet constructed in the laboratory of materials in the School of Architecture.

The project went through various research phases, including planning, conceptualization, prototyping, testing, and incorporation of detected improvements. The testing was conducted in the construction laboratory of the School of Architecture. The result was the development of a prototype “Tàpies Briefcase” (Figure 2). The prototype was tested and evaluated by users from ONCE (Figure 3). After incorporating the detected improvements, the innovation phase began, during which the briefcase was made available to visually impaired or blind users in the real environment of the University of Navarra Museum.



Figure 2. Architectural degree students generating the prototype. Source: Authors.



Figure 3. Utilization of the materials by a blind person. Source: Manuel Castells.



Figure 4. Public presentation of the “Tàpies’ Briefcase” project. Source: Manuel Castells.



Figure 5. “Tàpies’ Briefcase” elements. Source: Manuel Castells.

This led to the final version of the “Tàpies Briefcase,” presented publicly at the museum on February 2, 2024, where it is currently still in use, (Figure 4). The briefcase contains the following mediation elements (Figure 5):

- Audio descriptions: A total of 4 were generated with QR codes to be scanned by blind or visually impaired users’ phones. The audio guides contain information about 1. Tàpies’ biography, 2. the general characteristics of Tàpies’ work, 3. a description of the artwork “L’esperit català” (1971), and 4. a transcription of the written contents of the artwork.
- Touch element 1: Table with a reproduction of the texture of the artwork “L’esperit català” (1971).
- Touch element 2: Miniature reproduction of the artwork L’esperit català (1971), with elements in relief and writing in braille to be felt through touch.
- Notebook with a reproduction in braille and Spanish of the contents of the audio guides and an annex with the 52 concepts written in graffiti or inscribed on the work.

Key characteristics of project design

In the design of the project, the “Blindness Gain” methodology was generally used, incorporating the three axioms proposed by the lecturer at the University of Westminster Alison F. Eardley et al.⁵³ First, that the mediation material developed should be multisensory to stimulate imagination and creativity. In this specific case, touch (touch elements, a braille notebook), hearing (audio guides), and smell (wood) were utilized. Second, that non-visual living is an art. This second methodological criterion was reflected in the utmost respect shown toward the co-creation ideas generated by the BPB group. Third, the material developed by BPB can benefit those who are not BPB. The materials were also considered inclusive for the rest of the population. For example, the touch elements or the notebook with the translation of the braille texts into Spanish.

Also, the “Service-learning” model was used with the students, helping them understand the inclusive social impact of their work while receiving educational support from the participating institutions.

Additionally, the “PDCA” cycle model was used. It is commonly employed in quality assurance techniques and involves the following phases: plan, do, check, and act. These phases were carried out until the final product, the “Tàpies Briefcase,” was completed.

In the development of this general methodology, other specific methodologies were employed, such as the “Work Project” approach, which allowed student participation in the project, and “action research,” as students had to investigate the possibilities of the materials and other aspects related to co-creation, as well as how BPB individuals perceive the world. “Learning by doing” and “Creativity” were also used as concepts that enriched the methodological design, as the educational process was immersive and experiential, resulting in a concrete product. In this way more divergent thinking was fostered that could provide less standardized and more suitable solutions for the BPB group. New technologies and the technical laboratories of the School of Architecture were also used during the design, generation, and testing of the prototypes.⁵⁴



Figure 6. Focus group session. Source: Authors.

Results and discussion

The case was tested with a target group of nine BPB individuals on September 26, 2024. The session followed a focus group format,⁵⁵ where open-ended questions were asked, allowing for free responses (Figures 6 and 7). With the participants' informed consent, the session was recorded and transcribed. It took place in the museum, in front of the artwork "L'esperit català" by Tàpies. During the session, the group was able to interact with the box, explore its various elements, and listen to the audio guides. They were then asked questions about their experience with the mediation box.

Feedback on the box and its components

In general, the participants emphasized the box's effectiveness and value as a unique tool that enhances accessibility to the artwork. As participant 9 highlighted, "Each of us approached the box to explore what interested us: texture, contrast, sensitivity to light" For the same participant, the notebook was a great complement, as he had some remaining vision, adding that it was very positive that braille was included for support. Participant 5 emphasized that touch element 1 was very important to him because texture conveys diverse sensations. Besides, participant 9 explained that touch element 2 was also significantly useful: "You can feel that the edge of the bars has depth. Then, with the magnifying glass, you move closer and see it." Both participants 3 and 9 underlined that the audio guides with QR codes were compelling.



Figure 7. Focus group testing the materials.

Feedback on the artwork

Overall, the mediation process facilitates a broader understanding of the artwork, with the textural and compositional elements helping to form a tangible representation. Regarding the composition, participant 5 stated that “You get an idea of how the elements of the work are distributed.” As for the texture, participant 1 highlighted that “Touching the material gives you a sense of the medium the artist used ... It is an unusual technique for canvases.”

Feedback on the experience

The participants valued the inclusion of various formats with which they were familiar (participant 3). Moreover, they appreciated these materials as a new way to access the world of painting, emphasizing in particular the possibility of better understanding unconventional artistic methods, such as those of Tàpies, and the resulting textures (participants 5 and 9). According to participant 2, “It puts us, in a sense, on par with others who can see the work. We get a sense of what that work is like.” In other words, “You enjoy it because you can touch and better understand the details, the volume of the scratched letters, and it allows you to appreciate the work more fully, as well as placing it in its social and historical context” (participant 9). Participant 3 expressed with emotion that they felt a sense of privilege for this opportunity and added that they had learned how a mouth and an eye are represented.

Assessment and suggested improvements

Regarding the general evaluation, the Tàpies Briefcase materials received a score of 7.5 out of 10; the esthetic experience evaluation scored 8.6 out of 10. In addition, some improvements were suggested. For instance, participant 1 pointed out that it was difficult to open the box, proposing that adding a grip or handle would make it easier. The length of the audio guides and braille text for better pacing could be adjusted (participant 5) and it would also be an improvement to place the QR codes at the beginning of the notebook rather than at the end (participants 1 and 8).

Positive feedback was also collected concerning objectives 1, 2, and 3, supporting the effectiveness of these materials in helping participants interpret the work through sensory, emotional, and cognitive engagement. These results further support objectives 4 and 5, encouraging the development of a collaborative co-creation project with students from the School of Architecture. Overall, the experience was deemed highly positive. The six participating students expressed pride in the project, sharing comments such as: S1: “The course sessions served as a guide in creating a final product that is genuinely useful, even for individuals who are blind. This experience was especially enriching, as our professor has a visual disability.” S3: “It was an incredible opportunity to be part of a project that has become a reality.” In addition, the students also shared their enthusiasm on social media and with the teaching team about being involved in this inclusive project. Their design training enabled them to achieve the course’s core competence: “the ability to gather and interpret relevant data within their area of study in order to make judgments that reflect on relevant social, scientific, or ethical issues.”

In addition, the material was tested by six sighted visitors who chose to use the mediation box as a tool to engage with the artwork. All participants found that the material aided in contextualizing the piece, with both the text and audio guides providing content that enhanced their interpretation. The tactile elements allowed them to connect more deeply with the materials used in the artwork, fostering a closer, more personal experience.

The experience was considered unexpected, positive and enriching, making the artwork interactive and memorable, allowing to connect with it on a deeper level (visitors 2 and 5). The materials helped the participants to understand and feel closer to the artwork, providing with more information than simply viewing the painting and satisfying the need to touch (visitors 4 and 6). Visitor 3 stated:

I felt satisfaction, interest, and curiosity. The hardness and roughness of the material relate to the political themes of the piece – a complex time, strong ideas, full of energy and anger. It is not something soft and gentle, it demands attention.

Moreover, visitor 1 referred to a better understanding of both the context of the work and the artist’s emotions.

Conclusions

Museums are generally adapted to visual culture. This project required that other senses be enhanced to provide esthetic experiences to various groups, such as people with total blindness from birth, acquired or with visual impairment (residual vision). The

educational potential of contemporary art, such as “L’esperit català” (1971) by artist Antoni Tàpies, can promote the attainment of high-quality esthetic experiences, with great significance to the blind community, due to the multiple meanings that its contents can provide, many of them being universal humanistic values. According to the hypothesis, the design of this inclusive art mediation box, known as the “Tàpies Briefcase,” can enhance the esthetic experience for people with total blindness from birth, those with acquired blindness, or those with residual vision. The inclusive-formative design of the project led to training in the inclusion of participating students through the implementation of a collaborative, real, and practical project with students of design (products and services) and architecture. The project was highly successful, promoting both awareness and practical design training, which are invaluable in the university education of future professionals who will shape our environments. The project confirmed the value of these goals, further reinforcing students situated and competency-based learning. The project suggests approaches and techniques that can be applied to mediate other works of art. Textures, reliefs, and artworks that convey strong emotions, or universal values serve as “triggers,” establishing immediate connections with a broader audience while facilitating more agile mediation with the visually impaired. These elements, however, are not an obstacle to art with obvious features; more subtle yet equally effective “triggers” can be designed to mediate diverse types of artworks. This experience provides a foundation for further reflection on using mediation materials to promote social inclusion in museums. Thinking about future continuity in research on educational materials for blind people, we wonder if this experience can promote the development of other materials with a similar intention, helping generate high-quality esthetic experiences based on the real objects contained in a museum and their enabling context. With this intention, the project presented here allows for the transfer of research, development, and materialization results with the purpose of introducing similar dynamics.

Notes

1. See Falk and Dierking, *The Museum Experience*; Falk, *Identity and the Museum Visitor Experience*; Falk, *The Value of Museums*; Hein, *Learning in the Museum*; Hein, *The Museum in Transition*; Hein, *Progressive Museum Practice*; Hooper-Greenhill, *Museums and the Interpretation*; and Burnham and Kai-Kee, *Teaching in the Art Museum*.
2. Wallis and Noble, *The Slow Museum*.
3. See Grau and García-Raga, “Learning to Live Together.”
4. Edelstein, “New Foundations.”
5. See Pastor, *Pedagogía museística*; Hooper-Greenhill, *Museums and Education*; Filippoupoliti and Sylaiou, “Museum Education Today.”; Kristinsdóttir, “Toward Sustainable Museum Education Practices.”
6. Hooper-Greenhill, *Museums and Education*.
7. Sweeney, “Walking with Janet Cardiff.”
8. Eardley et al., “Devisualizing the Museum.”
9. Hooper-Greenhill, *Museums and the Interpretation*, 3; Yenawine, *Visual Thinking Strategies*.
10. Jay, *Downcast Eyes: The Denigration of Vision*.
11. Hooper-Greenhill, *Museums and the Interpretation*, 108.
12. Eardley et al., “Devisualizing the Museum.”
13. Wallis and Noble, “The Slow Museum.”
14. Arnheim, *Visual Thinking*.
15. Berger, *Ways of Seeing*; Morley, *Seven Keys to Modern Art*.

16. Zimmermann et al., "Refining the Eye."
17. Ortega and Gasset, *España invertebrada*.
18. Pastor, *Pedagogía museística*, 44.
19. See Arnheim, *Visual Thinking*; Berger, *Ways of seeing*; Freedman, *Teaching Visual Culture*; Yenawine, *Visual Thinking Strategies*; See Ausubel, *Psicología educativa*; Novak and Gowin, *Learning How to Learn*; Hall, *Representation: Cultural Representations and Signifying Practices*.
20. Hooper-Greenhill, *Museums and the Interpretation*, 108.
21. Hayhoe, *Blind Visitors Experiences*.
22. Tunstall, *Blindness and Enlightenment*.
23. European Institute for Design and Disability Stockholm. "Declaration 2004. Design for All.;" Labrador et al., *Manual de accesibilidad en museos*; Fundación Once, *Accesibilidad y Capacidades Cognitivas*.
24. López and Galán, *Accesibilidad y museos: divulgación y transferencia*; De la Mota, "Congreso Internacional."
25. Fernández, "Los Museos Accesibles en España.;" Slavin, "Los vínculos persona-patrimonio.;" Comas, "Introducción a la Museología Sensorial."
26. In this article, we will refer to this group in the same way as done in Eardley et al., "Devisualizing the Museum."
27. The Typhlological Museum was created in 1992 and is defined as a museum to be seen and touched.
28. Museo del Prado. "Hoy toca el Prado."
29. American Foundation for the Blind. "The Metropolitan Museum of Art."
30. For example, MoMA. "Art Insight."
31. The British Museum. "Accessibility at the Museum." These initiatives are considered one-off efforts, and it would be beneficial to integrate them into broader, more comprehensive projects to create increasingly inclusive museums.
32. Sebolt, "Learning in Museums."
33. International Convention on the Rights of Persons with Disabilities, adopted by consensus at the 76th plenary session of the United Nations General Assembly on December 13, 2006.
34. As happens in Eardley et al., "Devisualizing the Museum."
35. Ibid., 108.
36. Hayhoe, *Blind Visitors Experiences at Art Museums*.
37. Ibid., 185.
38. Kaschak, *Sight Unseen: Gender and Race*.
39. Tunstall, *Blindness and Enlightenment*.
40. Dessen, *Blind People*, 113.
41. The project was designed to ensure that participants involved in the material's development received academic credit through appropriate certification, in addition to recognition for the service-learning contributions of the participating institutions. Focus group participants were compensated by donating one of the produced kits to the ONCE Foundation library, as all participants are members of this organization. Additionally, they receive free admission to the museum whenever they wish to visit.
42. Baldioli et al., "Touch Points: Co-Designing Tactile."
43. This subject is taught by a teacher who has a visual impairment.
44. Only a few Spanish universities have reported experiences of this kind: Moreno-Rodríguez, "Formación obligatoria en accesibilidad universal."
45. Ibid., 14.
46. Ibid., 110.
47. Beard and Ragheb, "Measuring Leisure Satisfaction."
48. See Hooks, *Teaching to transgress*, 8; See Olds, "Sending Them Home Alive."
49. See Dewey, *Art as Experience*.
50. Lovgren and Karlsson, "From Art Making to Visual Communication," 96.
51. Tàpies, *El arte contra la estética*, 83–84.

52. Museu Tàpies. Barcelona. "Antoni Tàpies. The Collection. Objects and Sculptures." Register numbers 124 and 1573.
53. Eardley et al., "Devisualizing the Museum."
54. Laboratory of Architecture. The material-painting was created in the Cement and Concrete Zone. Tests were also conducted in the 3D Printer Zone specifically with Bambu Lab x1-Carbon machines.
55. Hennink, *Focus Group Discussions*.

About the Authors

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