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INCLUSION IN THE CULTURAL HERITAGE SECTOR

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iNCLUSION in the Cultural Heritage Sector

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FOREWORD

The Turkish Academy of Sciences (TÜBA), as Türkiye's national academy of sciences, serves as an independent institution contributing to the advancement of science and providing scientific advice at the highest level on matters of national importance. While continuing to support and promote scientific excellence across all fields of knowledge, TÜBA also places particular emphasis on strengthening the relationship between science and society. In this regard, the Academy continues to support and contribute to projects that address social needs, promote equal opportunities, foster the dissemination of scientific knowledge and enhance the societal impact of research. The iNCLUSION project and this book reflect this broader commitment by bringing scientific knowledge, interdisciplinary collaboration and social responsibility together in the field of cultural heritage.

Cultural heritage is more than a legacy inherited from the past; it is a shared space of memory, identity, learning, and participation. Its value is enhanced when everyone, regardless of physical, sensory, cognitive, social, cultural, or economic circumstances, can access it, interpret it, and contribute to it with dignity and autonomy. Inclusion in the cultural heritage sector should therefore be understood not only as a matter of social justice but also as a scholarly and institutional responsibility.

The book iNCLUSION in the Cultural Heritage Sector has been prepared as an intellectual and practical output of the Erasmus+ KA220-HED project iNCLUSION – Upskilling HED Students to create transformative cultural experiences for audiences with disabilities (Project Reference No. 2023-2-TR01-KA220-HED-000177708) coordinated by the Turkish Academy of Sciences (TÜBA). The project brought together higher education institutions, cultural organisations, museums, researchers, practitioners, and representatives of stakeholder groups from different countries to strengthen the capacity of the cultural heritage sector to provide more accessible, participatory, and inclusive experiences, particularly for persons with disabilities.

The chapters in this book approach inclusion from a broad and interdisciplinary perspective. They examine accessibility, well-being, empowerment, and meaningful participation in cultural heritage tourism, while also exploring artificial intelligence, digital storytelling, immersive technologies, games, podcasts, and multisensory interfaces as transformative tools. Museums, schools, higher education institutions, and cultural environments apply Universal Design and Universal Design for Learning. The diversity of contributions reflects the interdisciplinary nature of inclusion in cultural heritage: neither accessibility nor inclusion can be achieved through architectural solutions alone, and technology alone cannot bring about meaningful change. Change happens only when tourism, museum studies, cultural heritage management, education, disability studies, architecture, urban planning, communication, digital humanities, psychology, sociology, and public policy come together.

The book contains practices and case studies on tactile interpretation, inclusive exhibitions, affective and sensory museology, participatory learning trails, accessible urban heritage, cultural landscapes, migrant belonging, public-domain heritage, open cultural data and

inclusive museum policies. The volume also goes beyond individual institutions. Chapters cover cultural landscapes, historic urban environments, mobility, migration, social belonging, public domain heritage, inclusive higher education, institutional policies and governance of cultural knowledge. These perspectives remind us that exclusion can be embedded not only in buildings and technologies but also in professional routines, institutional language, curatorial choices, transportation systems, metadata structures and decisions about whose memories are preserved and communicated.

Taken together, these contributions show that accessibility cannot be reduced to the removal of physical barriers. Inclusion is also about accessible communication, diverse forms of representation, institutional commitment, co-design, and the active involvement of people whose experiences have historically been underrepresented.

The energy sector represents another critical front. By 2024, Türkiye reached a renewable energy capacity that, placing it among the top five countries in Europe. Growth in solar and wind energy contributes not only to climate goals but also to energy security. Yet, efficiency measures, digital energy management systems, smart grids, and storage technologies remain indispensable elements of the transition.

This book addresses these themes in their entirety, providing scientific, technological, legal, and economic perspectives on Türkiye's green transition. It examines the global and national impacts of climate change; sustainable management of natural resources; the implications of the European Green Deal; sectoral strategies in industry, energy, agriculture, and transport; and the financial and legal instruments needed to accelerate the circular economy. Through international and national examples, the work identifies both the challenges encountered and the successes achieved, offering concrete recommendations for Türkiye's future.

I would like to extend my sincere appreciation to all the scientists, experts, and institutional partners who contributed to the preparation of this important volume. On behalf of the Turkish Academy of Sciences, it is an honor to support Türkiye's path toward a sustainable, competitive, and climate-resilient future.

It is my hope that this book will serve as a valuable reference not only for the academic community but also for policymakers, industry leaders, civil society, and society at large. In an era when the need for scientific guidance has never been greater, this work represents a meaningful contribution to shaping Türkiye's green transformation.

One strength of this publication is that it brings theory and practice into dialogue. It puts scholarly discussions in conversation with institutional experiences, technological applications, educational models and community-based approaches; thereby highlighting a key principle of the iNCLUSION project: people with disabilities and other disadvantaged groups should not be seen as recipients of accessible services but rather as equal partners in design, interpretation, evaluation and governance of cultural heritage experiences. As the Turkish Academy of Sciences, we see the production and dissemination of knowledge as inseparable from our responsibility to make knowledge accessible, equitable, and

socially meaningful. We hope this volume will be useful to researchers, educators, museum professionals, cultural heritage practitioners, policymakers, technology developers, students and civil society organisations who work towards creating cultural environments where everyone can participate and feel a genuine sense of belonging.

I would like to thank the editors, authors, project partners, reviewers, cultural institutions, practitioners and all stakeholders who contributed knowledge and experience to this publication. I would especially like to thank persons with disabilities and representatives of disadvantaged communities whose participation, insights and lived experiences informed iNCLUSION project outcomes.

May this book help build a future where cultural heritage is not simply made accessible to all but shaped, interpreted and shared by all.

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Prof. Dr. Muzaffer Şeker graduated from Uludağ University Veterinary Faculty in 1986. Subsequently, Prof. Şeker earned his Ph.D. in Human Anatomy at the University of Leicester, Faculty of Medicine in England, in 1995. He achieved the position of associate professor in 2000 and was promoted to full professorship in 2006. Throughout his career, Prof. Şeker worked as an instructor in the United Arab Emirates for two years and also held the position of the Head of the Department of Medical Education and Informatics at the Meram Faculty of Medicine at Selçuk University. He played a crucial role as a member of the Founding Board of Trustees of Istanbul Medipol University from 2008 to 2010. In December 2014, he was appointed as the founding rector of Konya Necmettin Erbakan University. He has also served on the selection committees of Türkiye Institutes of Health Administration (TÜSEB) Aziz Sancar Science, Service, and Incentive Awards; YÖK Doctorate Awards; TÜBA-GEBİP Awards; and TÜBİTAK Science, Service, and Incentive Awards. He began his role as President of the Turkish Academy of Sciences in 2019. Prof. Şeker has also represented his country at the Science 20 Summits, World Science Forum, and many other international scientific events.

PREFACE

Access to cultural heritage is a basic cultural right. But access by itself does not equal inclusion. Someone may be able to enter a museum, visit a heritage site, or access cultural content digitally, yet may still remain outside the narratives, experiences, and decisions that shape that environment. Inclusion happens when people are physically present but also recognised, represented, listened to and empowered to participate.

This understanding is at the core of iNCLUSION in the Cultural Heritage Sector. The book has been produced as a scholarly output of the Erasmus+ KA220-HED project iNCLUSION – Upskilling HED Students to create transformative cultural experiences for audiences with disabilities (Project Reference No. 2023-2-TR01-KA220-HED-000177708) coordinated by TÜBA. It also reflects the broader commitment of the project to strengthen accessibility and inclusion in cultural heritage institutions through research, education, digital innovation, capacity building and participatory practice. The iNCLUSION project was based on a simple but important principle. Cultural heritage should not merely be made available to more people; it should be experienced, interpreted, and shaped with them. Persons with disabilities and other groups experiencing barriers to cultural participation have therefore been seen not as end users or beneficiaries but as contributors whose knowledge, lived experience and evaluations are necessary for the development of genuinely inclusive practices. This principle guided the research activities, training materials, digital storytelling practices, stakeholder consultations and policy-oriented work in the project as well as the intellectual direction of this volume.

The chapters of this book are original academic discussions, conceptual perspectives, literature-based analyses, institutional experiences and practice-oriented case studies. The opening contributions lay the conceptual groundwork for the volume by exploring relationships between cultural heritage, accessibility, inclusion, well-being, empowerment and meaningful participation. They challenge readers to move away from a compliance approach to accessibility and ask whether visitors can act autonomously, see themselves represented, shape their own experiences, and develop a genuine sense of belonging within cultural spaces.

A second group of chapters considers opportunities and responsibilities related to digital transformation. Artificial intelligence, digital storytelling, immersive technologies, virtual and augmented reality, podcasts, games, open data, and multisensory interfaces can significantly expand access to cultural heritage. Yet these technologies are not inherently inclusive; their value depends on how they are designed, whose knowledge they represent, whether their outputs are accessible, and whether users with diverse needs are involved throughout the design and evaluation process. The chapters therefore approach technology not as an end in itself but as a potential infrastructure for participation, agency and cultural empowerment.

Education is another strand of the book. Several chapters address Universal Design for Learning, inclusive museum education, tactile and multisensory interpretation, participatory learning trails, accessible exhibitions, game-based learning and communication practices tai-

lored to learners and visitors with different abilities and preferences. The studies show that inclusive design does not undermine quality cultural experiences; on the contrary, multiple ways of perceiving, understanding and engaging with heritage can add value to learning and interpretation for everyone.

Throughout the editing process, we strove to keep this plurality alive while maintaining a common focus: making cultural heritage into a field in which diversity is seen as an ordinary and valuable dimension of human experience. The book does not offer a single universal solution. Cultural institutions are different in terms of resources, audiences, responsibilities and local context, but several key principles unite the contributions: accessibility must be considered from the beginning rather than added retrospectively. Persons with disabilities should participate in design and decision-making, and digital innovation must remain human-centred and ethically responsible. Inclusion should be measured through lived experience rather than institutional intention alone.

We hope that this volume will lead readers to ask more demanding questions of cultural heritage institutions. Who can enter? Who can understand? Who is represented? Who can participate independently? Whose knowledge counts? Most importantly, who gets invited to shape the experience? These questions are not peripheral to the future of cultural heritage; they decide whether heritage will reproduce existing forms of exclusion or become a shared resource through which more equitable and democratic relationships can be built.

I would like to thank the President of the Turkish Academy of Sciences and co-editor Prof. Dr. Muzaffer Şeker for his leadership and support of the iNCLUSION project and this publication. I am grateful to all contributing authors for bringing together disciplines, national contexts, and professional experiences. I also thank the project partners, researchers, educators, museum and cultural heritage professionals, civil society organisations, reviewers, and institutional representatives who supported the development of the project and its outputs. My special thanks go to persons with disabilities and members of disadvantaged communities who shared their experiences, identified barriers, evaluated practices and helped us rethink what accessibility and inclusion should be. Their contributions have continually reminded us that inclusion cannot be meaningfully designed for people unless it is designed with them.

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CRITICAL DISCOURSES IN CULTURAL-HERITAGE TOURISM: ACCESSIBILITY AND INCLUSION AS A CATALYST FOR HUMAN WELL-BEING

Muzaffer UYSAL

CRITICAL DISCOURSES IN CULTURAL-HERITAGE TOURISM: ACCESSIBILITY AND INCLUSION AS A CATALYST FOR HUMAN WELL-BEING

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Abstract

This chapter presents a transformative framework for inclusive tourism and heritage, advocating for a change in basic assumptions that moves beyond mere legal compliance toward a model centered on human well-being. Central to this argument is a "hierarchy of tourism needs," which posits that while safety and physical accessibility serve as the necessary foundation, the ultimate objective of travel is self-actualization, the delivery of awe-inspiring, meaningful experiences that must be equitable for all visitors. The chapter draws a vital distinction between accessibility (the technical and physical parameters of entry) and inclusion (the psychological sense of belonging and representation). By addressing both tangible and intangible heritage, the chapter introduces the inclusive tourism heritage model, a holistic strategy designed to embed inclusive practices throughout the entire visitor journey. To ensure the sustainability and scalability of this approach, the framework concludes with a triad of reinforcing pillars, standards, measurement, and certification, intended to foster a unified global ecosystem for inclusive heritage tourism.

Keywords

Cultural-Heritage Tourism, *Accessibility*, *Inclusion*, *Human Well-Being*

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The evolution of modern tourism is increasingly defined by a shift from mere legal compliance to a deeper appreciation of accessibility as a foundational dimension of human well-being. Rather than viewing accessibility as a checklist of technical requirements, contemporary scholarship now frames it as a human-centered imperative, one that supports individual autonomy, protects human dignity, and strengthens feelings of belonging and social connectedness. This perspective recognizes that accessible environments do not simply remove barriers; they actively enable fuller participation, enhance quality of life, and ensure that diverse visitors can meaningfully engage with tourism experiences (Buhalis & Darcy, 2011; Chhabra, 2025; Chiscano & Darcy, 2010; Flego & Tei, 2025; Packer & Ballantyne, 2016; Pineda, 2024). By moving beyond the traditional compliance-driven approach, accessibility can be understood as a core component of self-actualization, personal growth, and the pursuit of fulfilling experiences. When accessibility is embedded into the very design and intent of tourism offerings, it ensures that travel experiences become intrinsically meaningful rather than simply meeting legal obligations. This shift positions accessibility not as an external mandate but as a catalyst that enables individuals to explore, learn, connect, and realize their full potential through tourism (Darcy & Dickson, 2009; Machado, 2020; Salazar & Zhu, 2015). Parallel to this shift is the critical distinction between accessibility and inclusion, two interdependent yet conceptually distinct constructs. Accessibility primarily addresses the physical, technical, and structural entry points that allow individuals to participate in tourism experiences. In contrast, inclusion encompasses the emotional, cultural, and narrative dimensions of belonging, emphasizing whether individuals feel genuinely welcomed, respected, and able to contribute to the experience (Bodo, 2012; Costanza et al., 2007; Long & Guo, 2023; Richards et al., 2010). True inclusion goes beyond the removal of barriers; it requires intentionally designing environments, practices, and storytelling approaches that affirm each visitor's presence, identity, and agency. By integrating both accessibility and inclusion, tourism can move from simply permitting participation to actively fostering engagement, meaningful connection, and a sense of shared ownership in the experience.

Finally, the sustainable realization of these ideals relies on the systemic governance and professionalization of inclusion. This discourse advocates for moving away from fragmented, ad-hoc initiatives in favor of a structured, measurable, and certifiable framework. By implementing global standards and rigorous measurement, inclusion is transformed into a continuous and accountable system. This professionalized approach ensures that the pursuit of a more equitable tourism landscape is coordinated, consistent, and held to a high standard of excellence worldwide.

Accessibility Versus Inclusion: Distinct but Interdependent

A critical evolution in this field is the conceptual separation of accessibility and inclusion. While the terms are often used interchangeably, this discourse argues they represent different dimensions of the visitor experience (Table 1). Accessibility is the "how," the technical, physical, and digital infrastructure that allows a person to enter a space (UNESCO, 2015). Inclusion, however, is the "why," the emotional, cultural, and narrative sense of belonging that makes a person want to stay (Packer & Ballantyne, 2016; Rucci & Porto, 2022). True inclusion requires meaningful engagement with both tangible and intangible heritage. A site may be physically accessible, for example, a museum with a ramped entrance, but if its exhibits fail to represent diverse histories or its staff lacks training in inclusive communication, visitors can still feel excluded. Inclusivity is fundamentally about representation; it is the sense that "my story belongs here." This perspective highlights the need for heritage sites to critically audit their narratives by asking: Whose voices are heard? Whose histories are celebrated? When visitors see themselves reflected in a destination's stories, a deeper and more authentic connection emerges (Bodo, 2012).

Table 1
Accessibility vs Inclusion

Accessibility	Inclusion
Getting People Inside Goal: Physical & Sensory Access Focus: Technical Compliance Who: Architects & Developers Outcome: Entry Achieved Ensuring Access	Creating a Great Experience Goal: Attitudinal & Emotional Engagement Focus: Welcoming Environment Who: Trainers, Storytellers & Community Liaisons Outcome: Belonging & Enjoyment Fostering Connection
Access + Inclusion: The Synergy Accessibility and inclusion work together to create a complete and dignified visitor experience: Accessibility provides the "hardware" such as ramps, captions, and technical standards that remove physical barriers, while inclusion offers the "software" that ensures visitors feel welcomed, valued, and emotionally connected. Having access alone is not enough; a person can enter a space but still feel excluded. True success requires the constructive collaboration of both technical access and social inclusion, bridged through universal design to support the entire visitor journey. Heritage managers must go beyond the technical to embrace human experience (Zajadacz & Lubarska, 2019; Flego & Tei, 2025).	

Source: Developed by the author.

Therefore, accessibility is the prerequisite, but inclusion is the goal. Forging this connection requires moving beyond the physical "gate" and into the "heart" of the heritage experience, ensuring that respect and emotional resonance are woven into the very fabric of the destination (Rebelo et al., 2022).

Systemic Governance and Professionalization of Inclusion

The final discourse addresses the persistent "implementation gap" by advocating for the systemic governance of inclusive practices. For too long, inclusion in tourism has relied on ad-hoc initiatives or the passion of individual site managers, leading to inconsistency and fragmentation across destinations (Darcy & Dickson, 2009). This discourse argues that for inclusion to be sustainable and scalable, it must be professionalized through a structured, measurable, and certifiable system, one that moves beyond "random acts of kindness" toward a global ecosystem of accountability (Buhalis et al., 2012). This governance model is built on three reinforcing pillars: **Standards, measurement, and certification. The chapter provides further information on these pillars under the section "The Inclusive Heritage Model."** (ENAT, 2014; UNESCO, 2015; 2020). Professionalizing inclusion ensures that it is treated with the same level of strategic importance as safety or fiscal management. It integrates inclusive practices into the entire visitor journey from digital marketing and booking platforms to onsite navigation and post-visit feedback, addressing systemic obstacles that cannot be solved through individual goodwill alone (McKercher et al., 2003). By framing inclusion as a continuous process of improvement rather than a static goal, this discourse envisions a unified global ecosystem that fosters innovation, strengthens accountability, and ensures that heritage remains a shared legacy for all of humanity.

1. Accessibility as a Driver of Human Well-Being

Quality of life (QoL) has gained growing attention in research and policy discussions, with cultural and heritage tourism, particularly heritage tourism, recognized as an important contributor. These forms of tourism involve learning, exploration, and engagement with tangible and intangible cultural and heritage resources across different destinations. They provide leisure and recreation while also enabling deeper cultural understanding and meaningful personal experiences. Activities such as visiting historical sites, participating in traditional festivals, or exploring museums and galleries stimulate intellectual curiosity, foster personal growth, and enhance appreciation for diverse cultures (Uysal & Wang, 2025).

Building on this connection between tourism experiences and individual enrichment, it becomes clear that enhancing human well-being is a central objective not only for society at large but also for the tourism sector, which increasingly seeks to contribute to meaningful and fulfilling experiences for individuals. Achieving this goal requires a multi-dimensional understanding of quality of life (QoL) that goes beyond material or economic indicators to encompass physical, psychological, social, and cultural dimensions (Berbekova & Uysal, 2021; Uysal & Sirgy, 2023). It also necessitates careful consideration of the conditions and environments that support well-being, ranging from accessible infrastructure and safe spaces to opportuni-

ties for personal growth, social connection, and authentic engagement with diverse experiences. By integrating these multiple facets, tourism can move toward practices that not only entertain but also genuinely enrich the lives of its participants. Quality of life (QoL) encompasses both objective and subjective dimensions, integrating the fulfillment of fundamental human needs with individual experiences of happiness, satisfaction, and meaning. It reflects not only material conditions but also psychological, social, and cultural factors that contribute to a sense of purpose and well-being. QoL is profoundly shaped by the opportunities provided through multiple forms of capital, including built infrastructure, social networks, human skills and capacities, and natural resources, as well as the policies, governance structures, and institutional frameworks that regulate and facilitate access to these resources (Costanza et al., 2007; Diener et al., 2018). In this sense, QoL is both a product of subjective experiences and a reflection of the broader environmental and societal context, highlighting the interconnectedness between individual well-being and the structures that support it.

In tourism, these opportunities include access to cultural, heritage, and natural experiences, alongside the ability to participate fully and autonomously. Reframing accessibility as a human-centered imperative aligns directly with this broader QoL perspective. Rather than treating access as a technical or compliance-driven problem, accessibility must promote autonomy, dignity, and meaningful engagement. When heritage sites and tourism environments embrace the principles of universal design, they go beyond merely meeting accessibility standards by creating spaces that are inherently usable by all visitors. This approach eliminates the need for segregated entrances, specialized assistance requests, or ad hoc accommodations, enabling individuals to navigate complex cultural landscapes with autonomy and confidence. By fostering independent access, universal design not only reduces barriers but also reinforces self-respect, personal agency, and the sense of empowerment that comes from actively engaging in one's surroundings. Moreover, it allows visitors to participate more fully in meaningful and enriching experiences, promoting deeper cognitive, emotional, and social connections with the heritage, culture, and communities they encounter (Buhalis & Darcy, 2011; Delbosc & Currie, 2018). In doing so, universal design transforms tourism environments into inclusive spaces that affirm human dignity while enhancing the overall quality and depth of the visitor experience.

Accessibility also amplifies the social dimension of well-being by shaping how individuals connect, interact, and share experiences. Tourism is inherently a collective activity, yet poorly designed spaces, infrastructure, or services can impose "forced separation," preventing some visitors or their companions from participating fully in social and cultural experiences. True inclusion, by contrast, ensures that diverse groups can engage together meaningfully, fostering shared memories, emotional resonance, and experiences of inspiration, awe, and wonder, the highest levels of the tourism experience hierarchy (Naniopoulos & Tsalis, 2019). By prioritizing well-being in design and practice, tourism can support not only personal growth and empowerment but also social integration and equitable participation. Accessible and inclusive environments allow all visitors to co-create experiences,

deepen interpersonal bonds, and derive collective meaning, transforming tourism from a solitary or segmented activity into a socially enriching and universally welcoming endeavor (Huang et al., 2024; Khoo et al., 2024; Thakur et al., 2023).

At the foundation of inclusive tourism are basic accessibility measures, ramps, elevators, and Braille signage, which ensure minimum functional access. However, these features alone do not guarantee high-quality experiences. The pinnacle of the tourism hierarchy emphasizes self-actualization, inspiration, and wonder, where visitors can engage with heritage without the cognitive burden of navigating segregated or specialized routes. Universal design benefits not only people with disabilities but also the elderly, families with strollers, and those with temporary injuries, creating a more resilient and welcoming tourism ecosystem (Richards et al., 2010). From a policy and planning perspective, integrating accessibility into tourism strategies advances QoL at multiple scales. Investments in inclusive infrastructure, programming, and design create opportunities for autonomy, connection, and enrichment for all visitors. By attending to both objective conditions and subjective experiences, planners and policymakers can ensure that cultural and natural sites contribute maximally to human well-being, empowering visitors, fostering social cohesion, and enabling transformative experiences that are universally attainable.

The Hierarchy of Tourism Needs:

The visitor experience in heritage tourism is best understood through hierarchical progression, much like Maslow's psychological framework. At the base of this hierarchy lie safety and physical access. Unfortunately, a huge portion of the tourism industry stalls at this foundational level, treating ramps, tactile paving, or wide doorways as the final goal rather than a mere starting point. While these structural elements are essential prerequisites, the "functional" layer does not, on its own, constitute a memorable or enriching experience. Without these foundations, a journey cannot begin; however, with only these foundations, the journey remains hollow (Fletcher et al., 2017).

To achieve the true potential of heritage tourism, we must design for the higher-order levels of esteem and belonging. This transition shifts the focus from the physical environment to the psychological state of the visitor. In an inclusive heritage site, "Belonging" is cultivated when a visitor feels welcomed, represented in the historical narrative, and socially integrated with their peers. "Esteem" is fostered when the environment empowers the visitor to engage with history autonomously, without the indignity of needing constant assistance or being relegated to "alternative" routes. When a site is designed for the entire progression, it facilitates a seamless transition from the physical to the emotional (Darcy & McKercher, 2011). The ultimate destination of this hierarchy is self-actualization and self-enrichment, where heritage catalyzes awe, inspiration, and personal growth. By ensuring that structural foundations are intentionally linked to psychological benefits and the sense of individual well-being, we move beyond "accommodation" toward "experience design." This holistic approach ensures that every visitor, regardless of their physical or cognitive requirements, can reach the peak of the hierarchy, finding profound meaning and connection within our shared global legacy.

1.1. **The Ultimate Goal: Self-Actualization and Self-Enrichment**

The true purpose of tourism is not merely the act of movement, but the transformation that occurs within the traveler. This transformation lives at the peak of the hierarchy: Self-actualization and self-enrichment (Lauring, 2013). At this level, travel transcends the logistical and becomes a vehicle for awe, wonder, and a profound understanding of our shared human story (Kirillova et al., 2017; Sheldon, 2020). While industry frequently obsesses over the "mechanics of entry", the width of a door or the presence of a lift, these are merely the physical keys to a much larger door. If we focus exclusively on these technicalities, we risk ignoring the "soul" of the experience, leaving the visitor physically present but emotionally disconnected. For a heritage site to facilitate self-actualization and self-enrichment, it must be intentionally designed to trigger deep psychological engagement. This means creating "peak experiences" where the visitor loses themselves in the narrative of a place. For a traveler with a disability, self-actualization is often hindered by the "cognitive tax" of constant problem-solving. By removing these barriers, we allow the mental space necessary for inspiration to take root. When a site is truly inclusive, it provides the same opportunities for spiritual renewal and intellectual expansion to every visitor, ensuring that the transformative power of heritage is not a luxury for the few but a right for all (Smith, 2020). The goal is to move beyond "basic access" and toward experience equity (Walle, 2010). This requires heritage managers to curate moments of connection that are available to everyone, regardless of their background or functional ability. Whether through sensory-rich storytelling, immersive technology, or inclusive interpretive design, the goal remains the same: To ensure that the "wow" factor of a heritage site is accessible. By intentionally crafting these high-level experiences, we honor the dignity of the traveler and fulfill the true promise of tourism: To expand the human spirit (Darcy et al., 2020; UNWTO, 2001).

1.2. **Heritage as a Right to Empowerment**

When we make heritage accessible, we are engaged in an act far more profound than the mere removal of physical obstacles or the opening of doors; we are democratizing the highest levels of human experience. Heritage sites serve as the repositories of our collective memory, identity, and inspiration. They are the stages upon which the human story is told. By systematically removing barriers, be they physical, sensory, or cognitive, we ensure that the transformative power of culture is not a curated privilege for the able-bodied but a fundamental right for all of humanity. This foundational belief necessitates a shift in professional focus from "mere compliance" with building codes to a deeper commitment to genuine human empowerment and flourishing. The ability to reach a state of **self-actualization through cultural engagement is a vital component of human experience (**Nikadambaeva et al., 2021). When a visitor with a disability can engage with a heritage site on their own terms, without being marginalized by inaccessible narratives or infrastructure, they are empowered to claim their place within the collective history of the world (Zahari et al., 2023). This sense of ownership fosters a profound psychological benefit, moving the individual from a passive recipient of "special assistance" to an active participant in cultural life.

Inclusive heritage tourism catalyzes social justice. It acknowledges that the "soul" of a destination, its ability to inspire awe and reflection, must be accessible to every citizen. By prioritizing this high-level engagement, we transform heritage sites into inclusive sanctuaries where the pursuit of inspiration is unencumbered by the limitations of design. We move toward a future where the enrichment of the human spirit is a universal guarantee (Darcy et al., 2020; Naniopoulos & Tsalis, 2019; WTO, 2016).

2. **The Conceptual Baseline: Heritage, Accessibility, and Inclusion**

To advance the global heritage tourism landscape, it is imperative to move beyond terminological ambiguity. While the terms heritage, accessibility, and inclusion are frequently used interchangeably in industry discourse, they occupy distinct and specific roles within the tourism ecosystem. Establishing a clear conceptual baseline is not merely an academic exercise; it is a practical necessity for implementing specialized models and strategies that translate theory into a welcoming, universal environment. By understanding how these three elements interact, we can move from ad-hoc interventions to a structured framework for improvement (Buhalis & Darcy, 2011; Gillovic & McIntosh, 2020).

Heritage comprises both the tangible (monuments, artifacts, landscapes) and the intangible (oral traditions, social practices, and cultural meanings). It is "what", the content, which draws the traveler. Accessibility, conversely, is the "how." It represents the technical, physical, and digital infrastructure that enables a visitor to engage with that content. It focuses on functional equity, ensuring that the physical environment does not preclude entry. However, as the discourse evolves, it becomes clear that accessibility alone is insufficient. Inclusion represents the "who" and the "feel." It is the qualitative measure of emotional belonging and narrative representation. It ensures that the visitor feels respected, seen, and valued within the heritage context (Darcy et al., 2020).

These three elements interact as a dynamic triad. For instance, a historic site (heritage) may be physically reachable via a ramp (accessibility), but if the stories told therein ignore the contributions of diverse communities, it fails to be inclusive. True systemic change occurs when these elements are harmonized to support the entire visitor journey. By defining these roles, heritage managers can identify specific gaps, whether they be physical barriers or exclusionary narratives, and apply targeted governance strategies. This conceptual clarity allows the tourism industry to transition from a compliance-oriented "gatekeeper" to an initiative-taking facilitator of human empowerment (Naniopoulos & Tsalis, 2019; UNWTO, 2016a). Table 2 presents three critical discourses that guide accessibility and inclusion.

Table 2
Three Critical Discourses Emerging from the Underlying Approach

I: Accessibility as Well-Being, Not Compliance	II: Accessibility vs. Inclusion: Distinct but Interdependent	III: Systemic Governance and Professionalization
Reframe accessibility as a human-centered imperative for autonomy and dignity. It moves beyond technical requirements to position access as foundational for meaningful tourism experiences.	Distinguish physical access from emotional and narrative belonging. True inclusion requires addressing both tangible and intangible heritage, ensuring representation, respect, and deep connection.	Advance inclusion as a structured, measurable, and certifiable process. It replaces ad-hoc initiatives with a globally coordinated system of standards, measurement, and accountability.
The Problem: Fragmented information and inconsistent standards continue a form of social exclusion for millions of potential travelers.		

Source: Developed by the author.

2.1. **Bridging Physical Access and Cultural Belonging**

The discussion provided implies that equitable heritage management requires a clear distinction between physical accessibility and cultural inclusion. Accessibility addresses the technical question: Can a person enter and move through the space? It involves structural features such as ramps, Braille signage, and clear circulation routes that remove physical barriers and allow visitors to reach tangible heritage. These measures are essential but represent only the foundation of meaningful access (Darcy & McKercher, 2011; Loulanski & Loulanski, 2011). On the other hand, inclusion asks a deeper question: Does the visitor feel they belong once inside? It is a cultural and emotional construct shaped by representation, narrative equity, and staff practices that create a sense of welcome. A site may satisfy all physical standards yet remain exclusionary if its stories overlook marginalized groups or its environment fails to affirm diverse identities. Accessibility provides the entry; inclusion shapes the emotional connection that transforms a visit into an experience (Small & Darcy, 2010; UNWTO, 2016b). This distinction mirrors the dual nature of heritage, tangible and intangible. Tangible heritage includes monuments, artifacts, and landscapes, while intangible heritage comprises stories, traditions, and cultural meanings. Genuine inclusion requires engagement with both dimensions. Overemphasizing physical while neglecting interpretation produces a fragmented experience (Buhalis & Darcy, 2011). Effective management must integrate physical navigation of tangible elements with cognitive and emotional access to intangible significance (Carbone, 2016). Visitors may reach an artifact yet remain excluded if its meaning is not conveyed through accessible formats such as sign language, audio descriptions, or simplified narratives. When structural design supports physical access and interpretive systems communicate the "spirit" of place in relatable ways, heritage sites become spaces of shared human connection where the past is accessible and resonant for all (Naniopoulos & Tsalis, 2019; Smith, 2020).

3. **The Inclusive Tourism Heritage Model: Bridging Theory and Practice**

Efforts to advance inclusive heritage tourism often struggle to translate ideals into consistent practice. The Inclusive Tourism Heritage Model (ITHM) offers a structured alternative by integrating four experiential components: 1) Physical access, 2) intellectual access, 3) sensory inclusion, and 4) social inclusion, supported by three organizational pillars: Standards, measurement, and certification (Table 3). Together, these elements move inclusion from a reactive effort to a systemic commitment embedded in the daily operations of heritage sites.

Table 3
An Inclusive Tourism Heritage Model (ITHM)

Physical Accessibility This component provides barrier-free routes and accessible transportation, allowing all visitors to move independently and navigate the site with dignity.	**Sensory Inclusion** By incorporating tactile models and audio descriptions, this approach engages multiple senses, enabling visitors with varying sensory needs to fully experience the site's narratives.
Intellectual Access Intellectual access offers cognitive support and easy-to-read formats for diverse learners. By making historical narratives understandable, sites empower visitors and go beyond mere legal compliance.	**Social Inclusion** Representing the "Ethical Ceiling," this dimension emphasizes staff attitudes and a sense of belonging. By honoring diverse histories, sites foster human dignity, social restoration, and genuine connection.
This model aligns a site's physical and narrative resources with a structured management approach to deliver a holistic visitor experience. It is reinforced by three supporting pillars: Standards, Measurement, and Certification.	

Source: Developed by the author.

Physical access is the first step in creating an equitable heritage environment. Rather than focusing narrowly on ramps or lifts, the model frames access as a coherent visitor journey: From transportation links to barrier-free routes, rest areas, and intuitive circulation systems. These elements support independent movement, reducing reliance on staff or companions. Such autonomy is central to visitor dignity, shifting access from charitable accommodation to a fundamental right. Intellectual access reinforces this foundation by ensuring that the site's interpretive content is understandable to a wide audience. Plain language, visual supports, layered narratives, and multiple learning formats help visitors, children, non-native speakers, and those with cognitive disabilities engage meaningfully with historical content. Intellectual access is not a simplification of history but a scaffolding that allows diverse visitors to grasp complex contexts. When physical and intellectual access are aligned, the heritage site becomes an environment where visitors can navigate and interpret at their own pace, fostering empowerment rather than dependency.

Where physical and intellectual access provide the mechanics of participation, sensory and social inclusion create the emotional quality of the experience. Sensory inclusion acknowledges that heritage is multi-sensory. Tactile models, embossed maps, audio description, and enhanced soundscapes allow visitors with visual or auditory impairments to experience history in ways that resonate with their perceptual strengths. These features enrich the experience for all visitors by diversifying the interpretive palette and deepening immersion. Social inclusion focuses on human connection and narrative representation. It ensures that the histories presented reflect a broad range of voices, including those historically marginalized or excluded. Heritage spaces become more inclusive when they acknowledge diverse contributions, present multiple perspectives, and train staff to interact with empathy and cultural awareness. These practices foster belonging, transforming the site into not just a place to visit but a social environment where all individuals feel their identities and histories matter.

In many heritage settings, inclusion remains inconsistent because it is approached through isolated projects or individual efforts. These initiatives may produce short-term improvements but rarely result in sustained change. The inclusive tourism heritage model addresses this gap by shifting the focus from episodic interventions to strategic integration. It positions inclusion as an organizational function that intersects with conservation, interpretation, operations, and visitor services (Buhalis & Darcy, 2011; Darcy & McKercher, 2011). This systemic approach encourages managers to consider all points of interaction from pre-visit information and digital accessibility to onsite interpretation and post-visit engagement. Inclusion becomes the connective tissue of the visitor experience rather than an add-on. When embedded in planning, design, and evaluation, inclusive practices elevate quality for every visitor, not only those with specific access needs.

4. **The Three Structural Pillars: Standards, Measurement, and Certification**

To ensure consistency and resilience, inclusive heritage practice relies on three reinforcing pillars: Standards, measurement, and certification. These pillars create the governance structure that moves inclusion from aspiration to professional practice.

4.1. **Standards: A Common Framework for Quality**

Standards provide a reference point for what quality inclusion looks like. They articulate expectations for accessibility, interpretation, staff competence, and visitor experience. Instead of relying on minimum legal requirements, which are often limited to physical infrastructure, the model emphasizes universal design principles that anticipate the widest range of user needs from the outset (Buhalis & Darcy, 2011). Clear standards help managers navigate the inherent tension between preserving historic authenticity and enabling broad access. They create consistency across diverse heritage environments and support cross-border reliability. Visitors can expect a comparable level of dignity and autonomy whether exploring an archaeological site, museum, or historic district. This predictability helps transform scattered accessible initiatives into a coherent global practice (Darcy et al., 2020; Naniopoulos & Tsalis, 2019).

4.2. **Measurement: Turning Inclusion into Management Practice**

Measurement is the operational mechanism that evaluates how effectively standards are being implemented. It shifts inclusion from a symbolic value to a data-driven process. Key indicators may include satisfaction rates among diverse visitor groups, staff training completion, digital accessibility audits, and physical access assessments. By monitoring performance, heritage sites can identify areas of progress and areas requiring improvement (Domínguez et al., 2025). This analytical approach treats inclusion as a dynamic system rather than a one-time achievement. It supports better decision-making, ensures transparency, and enables organizations to prioritize actions that yield the greatest impact on visitor experience. Measurement also reduces reliance on anecdotal claims and fosters a culture of continuous improvement.

4.3. **Certification: Public Accountability and Visitor Trust**

Certification serves as the outward-facing validation of a site's internal progress. It signals that a heritage site has undergone independent evaluation and meets established inclusive standards. In a landscape where destinations may claim inclusivity without substantive evidence, certification offers travelers a trusted assurance that the site is genuinely accessible and welcoming. For visitors, especially those with specific access needs, certification reduces uncertainty and provides confidence in travel planning. For organizations, it strengthens reputation, enhances competitiveness, and reinforces internal accountability (Fletcher et al., 2017; UNWTO, 2016b). Certification completes the cycle by linking standards and measurement to public recognition.

4.4. **Embedding Inclusion into Organizational DNA**

The lasting impact of the ITHM lies in its ability to institutionalize inclusive practice. With standards defining expectations, measurement guiding improvements, and certification validating achievements, inclusion becomes embedded in core organizational processes from procurement and hiring to facility maintenance and interpretive planning (Domínguez et al., 2013). This professionalization creates resilience. Inclusive practices no longer depend on individual champions or temporary funding. Instead, they are upheld through policy, training, evaluation, and continuous oversight. This ensures that changes endure across leadership transitions and budget cycles, creating stable environments where all visitors can participate confidently and fully. The inclusive tourism heritage model offers a practical roadmap for transforming heritage environments into spaces where everyone, regardless of ability or background, can engage meaningfully with the past. By integrating physical, intellectual, sensory, and social dimensions of access with a governance structure based on standards, measurement, and certification, the model elevates inclusion from a set of isolated initiatives to a systematic, accountable practice. Through this approach, heritage organizations can deliver experiences that are consistent, equitable, and deeply welcoming, fulfilling the fundamental principle that cultural heritage is a shared resource that must be accessible to all.

5. Conclusion: A Unified Vision for the Future of Heritage

Accessibility in tourism must be understood not as a narrow exercise in compliance but as a human-centered foundation for autonomy, dignity, and meaningful social connection. The evolution of modern tourism is increasingly defined by this shift from treating accessibility as a set of technical requirements to recognizing it as a human-centered imperative tied to personal growth, self-determination, and social belonging. Reframing accessibility in this way ensures that tourism experiences are not merely available but intrinsically meaningful. This requires a clear distinction between accessibility and inclusion: While accessibility ensures physical entry, inclusion cultivates emotional, cultural, and narrative belonging by addressing both tangible and intangible heritage. Advancing inclusion, therefore, demands systemic governance and professionalization, moving beyond isolated, ad-hoc efforts toward a globally coordinated, measurable, and certifiable framework grounded in standards, accountability, and long-term commitment.

Human-centered design plays a crucial role in this transformation. Moving beyond the traditional "medical model" of disability allows heritage sites to understand travel as fundamentally linked to dignity, identity, and social integration. The transformative potential of heritage tourism further reinforces this change in basic assumptions: As staycation cultures expand and sustainable marketing practices evolve, heritage experiences increasingly serve as catalysts for personal growth and identity formation (Chhabra, 2010; Xie, 2024). Moreover, removing physical, cognitive, and emotional barriers functions as a form of restorative justice, ensuring that the therapeutic potential of heritage, including its ability to reduce stress, foster continuity, and promote well-being, is fully accessible to all.

Modern inclusion in tourism is increasingly supported by the digitalization of heritage, which expands access to cultural experiences far beyond the constraints of physical location or social barriers. Digitizing intangible cultural heritage, such as oral traditions, rituals, performances, and community knowledge, has become a key driver in transforming cultural tourism, allowing broader audiences to engage with narratives and practices that were once restricted to specific geographies or communities (Giglitto et al., 2019). Emerging technologies, including extended reality (XR), artefact visualisation on web-based open frameworks, Artificial Intelligence, and blockchain, are not only revolutionizing heritage preservation and interpretation but also enhancing inclusivity by making cultural resources more accessible, interactive, and comprehensible (Darcy, 2010; Fernández-Díaz et al., 2023; Gatto et al., 2025; Rattanarungrot et al., 2025; Sánchez-Martín et al., 2025; Trček, 2022). Beyond technical innovation, digital heritage initiatives empower diverse audiences to participate actively in cultural exploration, learning, and storytelling, fostering a sense of connection, cultural appreciation, and shared ownership of human history. By integrating digitalization with human-centered design, heritage tourism can become more transparent, sustainable, and inclusive, ensuring that cultural experiences enrich both individual well-being and collective understanding in the digital age.

These digital tools expand access while strengthening authenticity, traceability, and participatory engagement, core components of a future-oriented inclusive tourism system. Transforming the global heritage landscape and achieving inclusive growth requires a profound shift from fragmented attempts at accessibility to a truly inclusive global ecosystem (Vegheș, 2018). For too long, the tourism industry has treated accessibility as a peripheral concern, often triggered by legal requirements rather than a genuine commitment to human potential. This concluding discussion argues that applying the inclusive tourism Heritage model and its pillars of standards, measurement, and certification can finally bridge the gap between policy and practice. Such a systematic approach ensures that inclusion becomes not an optional enhancement but a core professional standard that defines the quality of the visitor experience.

When these pillars function together, they create a virtuous cycle in which data continuously informs and elevates standards, driving ongoing innovation and "raising the bar" for the industry. This dynamic is critical for branding and rebranding destinations as inclusive sanctuaries, places where belonging, dignity, and meaning are embedded into every visitor experience (Yılmazdoğan & Ece, 2024). The ultimate success of this framework is reflected in the degree to which heritage sites fulfill their highest calling: Serving as sources of well-being, awe, and self-actualization. Heritage represents the collective inheritance of humanity, offering narratives through which we understand identity and our place in the world. Removing barriers does more than enable "access," it facilitates the deep psychological restoration, learning, and connection that emerge through encounters with the past. Ensuring that every individual, regardless of functional ability or background, can experience this "peak" of the tourism hierarchy fulfills the social mandate of heritage preservation (Naniopoulos & Tsalis, 2019; UNWTO, 2016b).

Looking ahead, the commitment to this unified framework must be unwavering. The professionalization of inclusion through rigorous measurement and global certification creates a verifiable and accountable system that supports diversity, equity, and inclusion, an endeavor driven not only by the economic potential of the expanding accessible market but fundamentally by human rights and dignity. Committing to this structured path ensures that the treasures of our past remain accessible to all, transforming heritage sites into inclusive sanctuaries of learning, restoration, and inspiration. In doing so, we honor the legacy of our ancestors while building a more equitable world for future generations. The journey from compliance to connection is demanding, but it is the only path that leads to a truly universal and transformative tourism experience.

Disclaimer

In preparing this manuscript, the authors used Grammarly and Claude (Anthropic) to improve the readability, grammar, and clarity of the text. Following the use of these tools, the authors carefully reviewed and edited all content to ensure its accuracy, originality, and integrity. The authors assume full responsibility for the content and conclusions presented in the final submitted version of the manuscript.

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FROM ACCESS TO EMPOWERMENT: TECHNOLOGY AS A TRANSFORMATIVE INFRASTRUCTURE IN INCLUSIVE HERITAGE TOURISM

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FROM ACCESS TO EMPOWERMENT: TECHNOLOGY AS A TRANSFORMATIVE INFRASTRUCTURE IN INCLUSIVE HERITAGE TOURISM

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Abstract

Heritage tourism is at a critical inflection point. While access infrastructure has improved considerably over the past two decades, a persistent gap remains between physical access and meaningful participation for visitors with disabilities. This chapter argues that the challenge of inclusive heritage tourism is no longer primarily one of quantity, such as ramps, captioning, or barrier-free entry points, but of quality: of experience, agency, and empowerment. Drawing on a sociotechnical perspective and grounded in the social model of disability, the chapter proposes a three-tiered conceptual framework moving from Access to Inclusion to Empowerment, and examines the role of intelligent, adaptive, and participatory technologies as the infrastructure that can bridge these tiers. Four technology domains are examined in depth: User-governed journey orchestration systems, user-controlled AI travel companions, adaptive multisensory and extended reality (XR) platforms, and co-creative generative AI heritage applications. The chapter concludes with implications for heritage managers, technology developers, and policymakers, and charts a future research agenda centred on governance, dignity, and co-design.

Keywords

Inclusive Tourism, *Accessible Heritage*, *Empowerment*, *Assistive Technology*, *Social Model of Disability*, *Artificial Intelligence*, *Extended Reality*, *Co-Design*

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Heritage is not merely something people visit. It is experienced, felt, interpreted, and shared. When visitors are technically included in a space but experientially excluded from it, guided rather than engaged, present but passive, accommodated rather than empowered, the very purpose of cultural heritage is undermined. This distinction between access and empowerment lies at the heart of this chapter.

The recovery of international tourism following the COVID-19 pandemic has renewed the urgency of this question. European tourist arrivals in 2023 recovered to within six percent of pre-pandemic 2019 levels, with Europe now accounting for more than half of all global tourist arrivals (Vujičić et al., 2024). As visitor volumes rebound, the social, economic, and reputational costs of exclusion escalate proportionally. Yet the tourism and heritage industries have been slow to move beyond compliance-based models of accessibility, in which the primary measure of inclusion is the presence of physical accommodations rather than the quality of the experience they enable.

Scholars have increasingly recognized this gap. The concept of accessible tourism, understood as enabling people with access requirements including mobility, vision, hearing, and cognitive dimensions of access to function independently and with equity and dignity through the delivery of universally designed tourism products, services, and environments (Darcy & Buhalis, 2011; Lin et al., 2022), has evolved substantially. Yet, as Darcy et al. (2020) note, the field has developed further in sophistication than in practice: The industry has not progressed sufficiently in providing accessible tourism products despite the growth of research. Gillovic et al. (2018) have similarly called for work that moves beyond enabling language toward structural change.

This chapter argues that the transition from access to empowerment requires a conceptual reframing, one in which technology is understood not as a series of individual assistive tools, but as a connected, power-shifting infrastructure that fundamentally alters who shapes the visitor journey. This position is grounded in the social model of disability, which locates the problem of exclusion not in individual impairment but in disabling social and physical envi-

ronments (Darcy & Buhalis, 2011; Dominguez Vila et al., 2025; Oliver, 2009). Engagement in tourism, understood as the sense of feeling involved, recognised, and meaningfully connected, cannot be produced by access alone.

The chapter is structured as follows. Section 1 reviews the conceptual landscape of accessible and inclusive tourism. Section 2 presents a three-tiered framework moving from Access to Inclusion to Empowerment, illustrated in Table 1. Section 3 examines four technology domains as the practical infrastructure for this transition, summarised in Table 2. Section 4 discusses implications for heritage managers, technology developers, and policymakers. The chapter concludes with directions for future research.

1. Literature Review: From Barriers to Belonging

1. 1. Disability, Tourism, and the Social Model

Approximately 15 percent of the global population, over one billion people, live with some form of disability (Ali et al., 2023; World Health Organization, 2011). When family members and carers are included, the number of individuals directly affected rises to roughly two billion, or 30 percent of the global population (Gillovic et al., 2018). These figures reveal both the scale of the excluded market and the inadequacy of treating accessible tourism as a niche concern.

Disability tourism scholarship has historically identified three primary categories of barriers to participation: Structural (physical and tangible, including inaccessible infrastructure), interpersonal (attitudes and behaviors of staff and other tourists), and intrapersonal (psychological barriers internalized by the traveler) (Ali et al., 2023). While structural barriers are the most visible, research has repeatedly demonstrated that the stress, anxiety, and emotional responses associated with intrapersonal barriers represent the most significant challenge to a fulfilling tourism experience (Darcy et al., 2020; Yau et al., 2004).

This evidence base supports the adoption of the social model of disability as the guiding framework for this chapter. The social model challenges the medical perspective, which locates disability in the individual's impairment. Instead, it argues that society, through the design of environments, systems, and attitudes, disables the individual (Darcy & Buhalis, 2011; Oliver, 2009). Applied to tourism, this means that the limitations encountered by people with disabilities are caused not primarily by their physical or cognitive conditions, but by destinations and institutions failing to take their needs into account (Dominguez Vila et al., 2025). Cockburn-Wootten and McIntosh (2020), cited in Nigg and Peters (2022), found that the tourism industry broadly continues to treat visitors with disabilities as objects of accommodation rather than as experts in their own experience. This posture must be fundamentally rethought. This chapter adopts a broad disability lens, covering mobility, sensory, cognitive, intellectual, and neurodivergent access needs. As Ribeiro et al. (2018) document, empowerment takes different forms across these groups. People with mobility, hearing, and visual impairments each present distinct requirements, and solutions that work well for one group may not suit another.

1. 2. **From Accessible to Inclusive Tourism**

The field has distinguished meaningfully between accessible and inclusive tourism. Accessible tourism focuses on removing barriers to participation and ensuring independent functioning; inclusive tourism, as articulated by Scheyvens and Biddulph (2018), encompasses the broader transformation of power relations, decision-making structures, and the capacity for marginalized groups to shape, not merely inhabit, tourism spaces. Thakur et al. (2023) have called for critical scholarship that situates these questions within frameworks of social justice and human rights.

Scheyvens and Biddulph (2018) identify seven elements of inclusive tourism development, including overcoming barriers for consumers and producers, challenging dominant power relations, widening participation in decision-making, and promoting mutual understanding between hosts and guests. Applied to heritage tourism, these elements require institutions to move beyond passive accommodation toward active co-creation of experience.

The economic rationale for this shift is compelling but frequently understated. People with disabilities and their companions make approximately 40 million trips annually, spending 17.3 billion dollars per year, yet this market remains chronically underserved (Ali et al., 2023; Zhang et al., 2019). Research finds that 50 percent of people with disabilities refrain from travelling due to a lack of reliable information, and approximately 75 percent in the United Kingdom have cancelled leisure or vacation plans because of insufficient physical or digital accessibility (Michopoulou et al., 2015; Purple, 2022). The economic and moral case for change converges.

1. 3. **Technology, ICTs, and the Promise of Accessible Tourism**

Information and communication technologies (ICTs) have dramatically reshaped tourism at large over the past two decades. For people with disabilities, this transformation holds particular significance: Technology is prefigured as a facilitator capable of alleviating structural, interpersonal, and intrapersonal barriers, and of enabling independent, equitable, and dignified participation in the tourism experience (Ali et al., 2023; Dominguez Vila et al., 2025).

A growing body of mobile applications has been designed for accessible tourism, from navigation aids for visually impaired visitors to sign-language video guides for heritage sites (Ribeiro et al., 2018). Naramski (2020) defines smart tourism ICTs to include multilingual websites, mobile applications, booking platforms, and social media, noting that service providers frequently prioritize style over accessibility in their digital offerings.

Despite this proliferation, significant limitations persist. Dominguez Vila et al. (2025) found that while the technical accessibility of official tourism websites has improved substantially, the content information related to accessibility and disability remains heterogeneous and dispersed. Purple (2022) estimates that approximately 73 percent of all

potential visitors with disabilities encounter inaccessibility on more than a quarter of the websites they visit. Nigg and Peters (2022) conclude that stakeholder collaboration, particularly the meaningful inclusion of people with disabilities as co-designers, remains underdeveloped in ICT development for accessible tourism, with control and coordination residing disproportionately with hospitality and tourism service providers.

Vujičić et al. (2024) identify an unintended consequence of Industry 4.0 technologies: As tourism systems become more automated and algorithm-driven, they may widen the gap between technological capability and the needs of people with diverse disabilities. The concept of Tourism 5.0 responds to this concern by calling for more human-centred, responsible, and accessible technology approaches (Vujičić et al., 2024). Central to this shift is a transfer of control from the institution to the visitor.

2. **Conceptual Framework: From Access to Empowerment**

The central conceptual contribution of this chapter is a three-tiered framework that distinguishes between Access, Inclusion, and Empowerment as qualitatively distinct states of participation in heritage tourism. These tiers are not merely degrees of the same condition; they represent fundamentally different relationships between the visitor, the institution, and the technology that mediates them. Table 1 summarizes the framework.

Table 1
The Access-Inclusion-Empowerment Framework for Inclusive Heritage Tourism

Tier	Core Question	Role of Technology
Access	Can I enter?	Assistive and accessible design technologies: Barrier removal, navigable websites, audio guides, captioning, ramp infrastructure.
Inclusion	Do I belong?	Adaptive experience technologies: Personalised routes, real-time modality switching, sensory-aware environments, AI companions.
Empowerment	Can I shape what happens here?	User-governed, participatory, and agentic technologies: Visitor-controlled AI, co-creative heritage platforms, governance redistribution.

Note: Author's own elaboration, informed by Darcy & Buhalis (2011), Scheyvens & Biddulph (2018), and Ali et al. (2023).

Access asks: Can I enter? This tier concerns the removal of physical, sensory, and informational barriers, including ramps, audio guides, captions, navigable websites, and barrier-free entry points. The scholarship on accessible tourism has made considerable progress at this level. However, access is a necessary but insufficient condition for meaningful heritage participation.

Inclusion asks: Do I belong? This tier concerns the quality of the experience once access is provided. It involves psychological engagement, recognition, and the sense of being addressed rather than merely accommodated by a heritage institution. Research on the experiences of people with disabilities in heritage settings consistently documents what might be called the accessible museum paradox: Visitors who are technically present yet experientially passive, guided rather than engaged, able to listen but unable to respond (Thakur et al., 2023). Inclusion is an affective and relational state, not a physical configuration.

Empowerment asks: Can I shape what happens here? This tier concerns agency, specifically the redistribution of control from the institution to the visitor. For the purposes of this chapter, empowerment is defined along three dimensions: Control over navigational decisions (how, when, and at what pace the visitor moves through a heritage space); interpretive participation (the ability to engage with and contribute to the meaning of heritage content); and decision influence (the capacity to shape the conditions of the experience itself). Empowerment is not a usability outcome but a governance outcome, as Ali et al. (2023) observe. It depends on who controls how the system adapts, how personalisation is deployed, and whose needs shape the design of the experience. Friman and Olsson (2023), cited by Ali et al. (2023), have demonstrated that travel autonomy is a critical determinant of subjective well-being among tourists with disabilities.

The three tiers are nested: Empowerment presupposes inclusion, which presupposes access. However, access does not automatically generate inclusion, and inclusion does not automatically generate empowerment. Each transition requires deliberate design choices. Access becomes inclusion when the experience is responsive to individual needs, non-stigmatising in its delivery, and capable of producing a genuine sense of belonging. Inclusion becomes empowerment when the visitor can actively shape the pace, content, and interpretive pathways of the experience, rather than receiving a programme that has been adjusted at the margins. Personalisation, while necessary for inclusion, can slide into paternalistic optimisation if control remains with the institution rather than the visitor. Each tier is enabled by a different register of technology: Access by assistive and accessible design technologies; inclusion by adaptive experience technologies; and empowerment by user-governed, participatory, and agentic technologies. Section 3 examines four technology domains in this light.

3. **Technology as the Infrastructure of Empowerment**

Technology does not create empowerment. Rather, it shapes the conditions in which empowerment becomes possible, including how visitors are addressed, what they can control, and whether they feel recognised. The four domains examined in this section are proposed design directions rather than descriptions of mainstream or widely implemented practice. They represent a forward-looking argument about what an empowerment-oriented heritage technology infrastructure could look like. It is also important to acknowledge that technology alone does not produce this shift. Institutional routines, staff practices, information governance, par-

ticipatory design processes, and policy conditions all form part of the social layer through which any redistribution of control must operate. The four domains together form a connected system spanning the visitor journey from arrival to participation. Table 2 provides an overview.

Table 2
Technology Domains Supporting the Access-Inclusion-Empowerment Framework

Technology Domain	Framework Tier Addressed	Primary Function	Key Sources
User-Governed Journey Orchestration	Access to Inclusion	AI-supported real-time route and experience adaptation based on mobility needs, fatigue, and crowd levels.	Lin et al. (2022); Nigg & Peters (2022)
User-Controlled AI Travel Companions	Inclusion to Empowerment	Visitor-governed personalization; visitor controls when and how technology intervenes, prioritizing autonomy and dignity.	Ali et al. (2023); Friman & Olsson (2023)
Adaptive Multisensory and XR Platforms	Access and Inclusion	Dynamic modality switching (visual, audio, haptic) and immersive AR/VR/MR experiences enabling sensory and cognitive parity.	Lin et al. (2022); Vujičić et al. (2024)
Co-Creative Generative AI Heritage Platforms	Empowerment	Participatory, multi-modal storytelling embedded within the heritage visit; visitors shape interpretation rather than receive it.	Thakur et al. (2023); Scheyvens & Biddulph (2018)

Note: Author's own elaboration, informed by Lin et al. (2022), Ali et al. (2023), Vujičić et al. (2024), and Thakur et al. (2023).

3.1. **User-Governed Smart Journey Orchestration**

Most digital systems in heritage settings are designed around institutional efficiency. They manage visitor flows, determine route sequences, and control access points. Visitors are expected to adapt to these systems rather than the other way around. Inclusive heritage tourism requires a different approach: Pace, sequence, and mode of access must be adjustable by the visitor, not fixed in advance by the institution.

User-governed smart journey orchestration systems are AI-supported platforms that adapt routes and experiences in real time based on mobility needs, fatigue levels, sensory preferences, and environmental conditions such as crowd density. Drawing on IoT infrastructure, location-based services, and real-time data processing, which Lin et al. (2022) describe as the technological foundation of Smart Accessible Destinations (SAD), these systems operationalise the transition from access toward inclusion by shaping the experience around the visitor. Lin et al. (2022) propose an illustrative model in which IoT sensor networks, real-time crowd data, and mobility preference inputs together generate dynamically adjusted visitor itineraries. While this remains a conceptual framework rather than a deployed system, it illustrates the kind of architecture through which visitor-governed orchestration could operate in museum and heritage site contexts.

Governance architecture matters as much as technical capability in this domain. Nigg and Peters (2022) document that ICT development for accessible tourism is currently fragmented, with different providers developing separate platforms and coordination remaining superficial. Shifting toward visitor-governed systems requires both technical integration and a deliberate redistribution of control away from service providers. This domain is most relevant to visitors with mobility impairments, fatigue-related conditions, and sensory sensitivities, for whom route flexibility and crowd avoidance are essential rather than optional (Ribeiro et al., 2018). A key implementation risk is that visitor-governed orchestration may work well within a single heritage site but break down across journeys involving multiple providers or transport systems.

3. 2. **User-Controlled AI Travel Companions**

Personalisation in tourism is currently dominated by marketing logic. Algorithms optimise recommendations for conversion and engagement, often invisibly. For visitors with disabilities, this can produce suggestions that are practically inaccessible or emotionally alienating. Ali et al. (2023) document this in their study of tourists with intellectual disabilities, who consistently reported that digital interfaces failed to anticipate or accommodate their needs.

User-controlled AI travel companions offer a different model: Systems in which visitors govern how, and to what degree, technology intervenes in their experience. Such companions allow visitors to decide whether to prioritise accessibility, rest, crowd avoidance, or timing, and to adjust the system's behaviour in real time. The distinction between algorithmically optimised personalisation and visitor-governed personalisation maps directly onto the distinction between inclusion and empowerment. In the former, the system serves institutional efficiency goals; in the latter, it serves the visitor's autonomy and dignity.

Ali et al. (2023) find that autonomy is a primary determinant of subjective well-being among tourists with mobility disabilities, and Friman and Olsson (2023), cited by Ali et al. (2023), show that control over journey decisions is a constitutive element of meaningful tourism experience, not merely a convenience. This domain is most relevant for visitors with intellectual disabilities, chronic fatigue conditions, and anxiety-related barriers. For these groups, ease of comprehension and the ability to achieve outcomes with minimal input are decisive factors (Ali et al., 2023). AI companions must therefore be configurable rather than prescriptive, offering layers of support that visitors can activate or withdraw. A key implementation risk concerns data governance. Companion systems that adapt in real time necessarily collect sensitive personal data. Vujičić et al. (2024) identify privacy and fairness in algorithmic decision-making as persistent concerns in Tourism 5.0; for heritage AI companions, robust governance frameworks are needed in which visitors retain control over what is collected, stored, and used.

3. 3. **Adaptive Multisensory and XR Platforms**

Much of the accessible tourism literature has focused on physical barriers and information formats. Sensory experiences in heritage settings are typically designed for a sighted, hearing, and ambulatory visitor. Cognitive load and sensory diversity are rarely addressed proactively. As a result, people with sensory or cognitive disabilities frequently encounter heritage spaces as sites of anxiety and over-stimulation rather than enrichment, a pattern documented by Gillovic et al. (2018).

Adaptive multisensory platforms, including augmented reality (AR), virtual reality (VR), mixed reality (MR), and haptic interfaces, offer the possibility of sensory, cognitive, and emotional parity. Lin et al. (2022) outline how these technologies, operating across what Buhalis and Karatay (2022) describe as the mixed reality spectrum, can facilitate and enhance tourism experiences for visitors with diverse access requirements. When properly designed, they can switch modalities, from visual to audio to haptic, based on real-time assessment of cognitive load, and can adjust pacing in ways that reduce the need for visitors to explicitly request accommodation.

Vujičić et al. (2024) note that AR and VR applications can provide immersive cultural experiences, allowing tourists to explore historical places in respectful and engaging ways. In heritage contexts, 3D virtualisation and immersive VR are increasingly used to provide access to archaeological sites and historic buildings that are structurally inaccessible to wheelchair users or visitors with mobility limitations. Lin et al. (2022) describe how virtual attractions within a Smart Accessible Destination framework can reduce pre-visit anxiety and provide meaningful engagement with sites that visitors cannot enter physically. For those who cannot access physical heritage spaces, these technologies can support more equivalent experiences, though they do not fully replicate the physical encounter. Lin et al. (2022) further observe that immersive VR could reduce the discrimination that people with access requirements face at destinations with limited physical accessibility.

The guiding design principle for these platforms is dignity-by-default: Adaptation should occur without visible flagging, without requiring visitors to request help, and without creating stigmatising differences in the quality of the experience. Haptic interfaces and audio description are most relevant to visitors with visual impairments, while captioned and signed content and low-stimulation modes serve visitors with hearing impairments and neurodivergent access needs (Ribeiro et al., 2018). For visitors with mobility disabilities who cannot access physical spaces, immersive VR may offer meaningful, though not identical, engagement with heritage content (Lin et al., 2022). A significant implementation risk is cost and digital literacy. High-quality XR infrastructure requires substantial investment and staff training, and Vujičić et al. (2024) caution that without adequate support, Industry 4.0 technologies may widen the gap rather than close it.

3. 4. **Co-Creative Generative AI Heritage Platforms**

The fourth domain addresses the deepest tier of the framework: Empowerment as participatory co-creation. In most heritage and tourism contexts, visitors are treated as isolated consumers. Their participation is symbolic at best, taking the form of a comment form, a feedback survey, or a question-and-answer session appended to the experience. For visitors with disabilities, this passivity is compounded by the structural inaccessibility of most participation mechanisms.

Co-creative generative AI platforms offer a different approach. By embedding shared storytelling, group exploration, and user-generated narrative into the heritage experience itself, these platforms allow visitors to shape the meaning of what they encounter rather than simply receiving interpretations prepared by the institution. Thakur et al. (2023) highlight the importance of museums supporting value co-creation as a pathway to more inclusive heritage spaces, including through participatory digital approaches that sustain community engagement. Scheyvens and Biddulph (2018) identify the capacity for marginalised people to tell their own stories as a core element of inclusive tourism. Co-creative AI platforms can embody this principle by allowing visitors to generate personalised narrative pathways rather than following a single authoritative interpretation.

Generative AI enables co-creation at a scale that was previously impractical: Adaptive narratives that respond to visitor input, multi-participant storytelling across different communication modalities, and heritage interpretations personalised to individual knowledge levels and sensory preferences, without requiring staff to mediate each interaction. For visitors with intellectual disabilities, Ali et al. (2023) find that ease of comprehension and the ability to achieve outcomes with minimal input are critical to positive technology experience. Co-creative AI platforms designed with this principle can transform heritage interpretation from a broadcast model into a genuinely dialogic one. This domain is most relevant for visitors with intellectual disabilities and neurodivergent visitors for whom standard interpretation formats may be inaccessible. An important caveat applies: Co-creative generative AI carries risks of narrative inaccuracy, cultural misrepresentation, and reinforcement of dominant historical perspectives, particularly where the communities most affected by exclusion are least represented in heritage institutions (Thakur et al., 2023). Co-design processes, in which people with disabilities participate in platform development and governance from the outset, are the essential safeguard against these risks. Without such processes, co-creative AI may narrate heritage on behalf of communities rather than alongside them.

4. **Discussion and Implications**

The four technology domains described above are not isolated innovations. Together, they form an interconnected system spanning the visitor journey from pre-arrival planning through in-site experience to post-visit reflection. When designed around the principles of user governance, dignity-by-default, and co-creation, their combined effect is to shift control from the institution to the visitor, which is the defining characteristic of the Empowerment tier of the framework.

4. 1. **Implications for Heritage Managers and Institutions**

The most significant implication for heritage institutions is architectural rather than instrumental. The goal is not to add accessible features to existing systems but to redesign systems so that governance is distributed from the outset. This requires a different understanding of who belongs in the design community. As Nigg and Peters (2022) find, organisations representing people with disabilities possess lived expertise that is rarely drawn upon in ICT development for accessible tourism. Heritage institutions must incorporate people with disabilities not merely as testers but as co-designers of the systems and experiences that will serve them.

Institutions must also address what Dominguez Vila et al. (2025) identify as the gap between technical accessibility and content accessibility. Improvements in website technical compliance have not been matched by improvements in the quality of accessibility-related information, the kind that enables visitors with disabilities to make informed decisions about whether and how to visit. Closing this gap requires a commitment to information governance as a continuous practice rather than a one-time compliance exercise.

4. 2. **Implications for Technology Developers**

For technology developers, the framework highlights a critical distinction between personalisation-for-efficiency and personalisation-for-autonomy. Most current personalisation systems in heritage and tourism serve institutional or commercial goals. Systems designed to empower visitors with disabilities must instead be governed by what Ali et al. (2023) describe as the three pillars of accessible tourism: Independence, equality, and dignity. This requires user-centred design processes in which people with disabilities shape how systems adapt to them, not as edge cases but as the primary design constituency.

The diversity of disability types and access needs is a persistent design challenge. Ali et al. (2023) note that the universal design principle, while aspirational, is complicated by the specific and varied needs of users with disabilities. This points toward modular, adaptive architectures: Systems that can be configured by users themselves, rather than systems that try to anticipate every access requirement in advance.

4. 3. **Implications for Policy**

The policy landscape for accessible and inclusive heritage tourism is increasingly well-developed. The UN Convention on the Rights of Persons with Disabilities (2006), adopted by 165 countries, establishes accessibility as a citizenship right. The European Accessibility Act (2019) requires that ICTs and digital platforms remove barriers for people with disabilities. The UNWTO's 2030 Agenda incorporates accessibility within Sustainable Development Goals 1, 3, 9, 10, and 11 (Dominguez Vila et al., 2025). Policymakers can use these frameworks to create financial incentives for investment in accessible systems and to establish regulatory expectations that go beyond minimum compliance. Connecting policy to empowerment, however, requires additional steps: Embedding co-design requirements in procurement standards, mandating accessibility data transparency, funding adaptive content infrastructure rather than one-time physical modifications, and supporting participatory governance processes in which people

with disabilities contribute to heritage technology design from the outset. As Cassia et al. (2021) argue, technology is ineffectual without the political and social will to reshape the ecosystem in which it operates. Policy is therefore not simply a compliance mechanism but an active lever through which the redistribution of control that empowerment requires can be institutionalised.

5. **Conclusion**

The argument advanced in this chapter can be stated simply: Accessible heritage tourism is not ultimately about helping people fit into existing systems. It is about redesigning systems so that no one has to ask for help. That is the difference between access and empowerment, and it is the difference that technology, when designed with the right intentions and the right governance architecture, can help bridge.

The three-tiered framework of Access, Inclusion, and Empowerment provides a way of understanding why compliance-based models of accessibility fall short and what a more ambitious approach would require. The four technology domains examined: User-governed journey orchestration, user-controlled AI companions, adaptive multisensory and XR platforms, and co-creative generative AI heritage applications, represent not individual solutions but a connected infrastructure for shifting power from institution to visitor.

This infrastructure is not without risk. Technology designed without the participation of people with disabilities will replicate the exclusions it claims to address. Personalisation systems governed by institutional interests will produce more sophisticated versions of the same problem. Generative AI deployed without co-design will narrate heritage on behalf of communities rather than alongside them. User governance, dignity-by-default, and participatory co-creation are not optional features of inclusive heritage technology. They are its necessary conditions.

6. **Future Research Directions**

The framework and technology analysis presented in this chapter open several productive directions for future research. First, the measurement of empowerment as a tourism outcome requires methodological development. Existing accessible tourism research is well-equipped to measure barriers and their removal; it is less equipped to measure the qualitative shift from inclusion to empowerment, the psychological experience of having shaped rather than merely received a heritage encounter. Developing validated instruments for this construct, drawing on the autonomy, dignity, and social inclusion dimensions identified by Ali et al. (2023), represents an important priority.

Second, the governance dimensions of accessible tourism technology remain substantially underexplored. Nigg and Peters (2022) document the fragmentation of current ICT development for accessible tourism, but the conditions under which meaningful co-design occurs, and the institutional and political barriers to it, require dedicated investigation. Ethnographic and participatory action research approaches, conducted with and by people with disabilities, are particularly well-suited to this inquiry.

Third, the intersection of generative AI and heritage interpretation presents both significant opportunities and significant risks that require empirical investigation. Questions of narrative accuracy, cultural sensitivity, and the potential for AI-mediated interpretation to reinforce rather than challenge dominant historical narratives are urgent, particularly for communities that are least represented in heritage institutions.

Fourth, the Tourism 5.0 framework proposed by Vujičić et al. (2024), centred on human-centric, responsible, and accessible technology, provides a productive theoretical context for examining how the transition from Industry 4.0 to Industry 5.0 logics can be operationalised in heritage settings. Comparative studies across different institutional types and national regulatory contexts would advance both theoretical development and practical guidance.

Finally, the economic dimensions of empowerment-oriented inclusive heritage tourism deserve more sustained attention. The accessible tourism market is substantial and growing; but the economic case for moving beyond compliance toward empowerment, including the value of co-creative participation, the loyalty effects of dignity-by-default design, and the reputational benefits of genuine inclusion, has not been systematically documented. Such evidence would strengthen the case for institutional investment and policy support.

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ACCESSIBILITY AND PARTICIPATION: NEW PARADIGMS FOR CULTURAL INSTITUTIONS

Enrico DOLZA

ACCESSIBILITY AND PARTICIPATION: NEW PARADIGMS FOR CULTURAL INSTITUTIONS

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Abstract

This paper explores the paradigm shift required within cultural institutions, advocating for a transition from passive accessibility to active participation rooted in the social model of disability introduced by the UN Convention on the Rights of Persons with Disabilities (UNCRPD). By recognizing that disability is socially constructed through environmental and attitudinal barriers, the author emphasizes that designing inclusive spaces is a fundamental civic duty, not a special concession. Central to this argument is Article 30 of the UNCRPD, which enshrines the right to engage in cultural life and mandates the accessibility of cultural materials while protecting specific linguistic identities, such as those of the Deaf community. Modern museums must evolve beyond traditional functions of conservation and exhibition to become dynamic, participatory learning environments. To achieve this, accessibility must be addressed as a multidimensional challenge encompassing architectural, digital, linguistic, economic, and cognitive facets. The paper specifically highlights the often-misunderstood needs of deaf and hard-of-hearing audiences, stressing that this community is highly heterogeneous, comprising late-deafened adults, early-deafened oral users, and native Sign Language users. Deaf visitors frequently encounter systemic barriers throughout their museum journey, from inaccessible digital platforms and the auditory exclusivity of multimedia, to the profound linguistic obstacles posed by overly academic, "baroque" written texts. To dismantle these exclusionary walls, cultural institutions must reject elitist communication models and adopt Plain Language alongside Easy-to-Read standards. Furthermore, the paper champions international best practices anchored in the Universal Design for Learning (UDL) framework. It recommends integrating multimodal resources, such as natively accessible videos featuring Deaf translators, high-contrast subtitles, synchronized imagery, and professional voice-overs to accommodate diverse communicative needs. Ultimately, true cultural democracy requires designing for accessibility from the earliest planning stages in collaboration with disabled professionals, transforming museums into inclusive pillars of human rights.

Keywords

Accessibility, *Inclusive Museums*, *Social Model of Disability*, *UNCRPD*, *Deaf Community*, *Sign Language*, *Universal Design for Learning (UDL)*, *Easy-to-Read*, *Plain Language*

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1. **The Social Model of Disability: A paradigm shift in the UN Convention**

The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD, 2006) has undoubtedly improved the conditions of accessibility within cultural and museum institutions. The emphasis placed by numerous supranational bodies (European Disability Strategy, 2010-2020) and national governments on its implementation has led to growing attention to the subject. This has contributed to the spread of a new cultural approach based on the idea that environments must be designed for everyone, remaining flexible and open to diversity.

The UNCRPD introduced a fundamental shift in how disability is understood, moving away from a purely medical perspective toward a social model. According to this vision, disability is not an individual "defect" to be cured, but rather a condition that emerges from the interaction between persons with impairments and the environmental or attitudinal barriers that hinder their full and effective participation in society on an equal basis with others.

In this sense, disability is socially constructed: it exists precisely because environments, including cultural places and museums are often designed based on an "ideal" standard of human functioning, thereby excluding those who do not fit that narrow norm. As the UNCRPD articles highlight, it is the presence of these barriers that "dis-ables" the person, effectively limiting their autonomy and choices in daily life. Embracing the spirit of the Convention means shifting our focus from the "impairment" of the body to the inaccessibility of the environment. By adopting the principle of *Design for All*, we acknowledge that an inclusive space is not a "special" concession for a few, but a civic foundation that allows every individual to exercise their full rights of citizenship.

1.1. **Cultural democracy and Article 30 of the UNCRPD**

The transition from a passive model of accessibility to a proactive model of participation finds its legal and ethical foundation in Article 30 of the United Nations Convention on the Rights of Persons with Disabilities. This article recognizes that participation in cultural life

is not a luxury, but a fundamental right that enables the self-determination of individuals. It mandates that cultural materials, television programmes, films, and monuments be accessible, while also protecting the specific cultural and linguistic identity of communities, such as the Deaf community and their sign languages.

The following is the integral text of Article 30 – *Participation in cultural life, recreation, leisure and sport*:

1. States Parties recognize the right of persons with disabilities to take part on an equal basis with others in cultural life, and shall take all appropriate measures to ensure that persons with disabilities: a) Enjoy access to cultural materials in accessible formats; b) Enjoy access to television programmes, films, theatre and other cultural activities, in accessible formats; c) Enjoy access to places for cultural performances or services, such as theatres, museums, cinemas, libraries and tourism services, and, as far as possible, enjoy access to monuments and sites of national cultural importance.
2. States Parties shall take appropriate measures to enable persons with disabilities to have the opportunity to develop and utilize their creative, artistic and intellectual potential, not only for their own benefit, but also for the enrichment of society.
3. States Parties shall take all appropriate steps, in accordance with international law, to ensure that laws protecting intellectual property rights do not constitute an unreasonable or discriminatory barrier to access by persons with disabilities to cultural materials.
4. Persons with disabilities shall be entitled, on an equal basis with others, to recognition and support of their specific cultural and linguistic identity, including sign languages and deaf culture.
5. With a view to enabling persons with disabilities to participate on an equal basis with others in recreational, leisure and sporting activities, States Parties shall take appropriate measures: a) To encourage and promote the participation, to the fullest extent possible, of persons with disabilities in mainstream sporting activities at all levels; b) To ensure that persons with disabilities have an opportunity to organize, develop and participate in disability-specific sporting and recreational activities and, to this end, encourage the provision, on an equal basis with others, of appropriate instruction, training and resources; c) To ensure that persons with disabilities have access to sporting, recreational and tourism venues; d) To ensure that children with disabilities have equal access with other children to participation in play, recreation and leisure and sporting activities, including those activities in the school system; e) To ensure that persons with disabilities have access to services from those involved in the organization of recreational, tourism, leisure and sporting activities.

By implementing the Universal Design cultural institutions are not merely complying with a technical requirement (Brambilla, 2021; Ciaccheri, 2022); they are fulfilling a civic obligation (Serra et al., 2025). It ensures that under-represented visitors (Quadrio & Landi, 2026), those who have historically practiced self-exclusion due to environmental and linguistic barriers, can finally reclaim their role as protagonists of their own history.

1.2. **The Persistence of Inequalities and Barriers**

However, inequalities and barriers to access for people with disabilities remain persistent (Angelaccio, 2017). This is particularly alarming considering that, only in the European Union, the percentage of people with disabilities is estimated at approximately 15% of the total population, reaching the staggering figure of 80 million people (EDF, 2018). Despite the proliferation of anti-discrimination regulations over the last decade at all levels, numerous barriers still exist within mainstream society. It is the presence of these environmental barriers that "disables" individuals, far more than the impairments described by medical science based on an ideal standard of functioning. Disability exists because inaccessible environments render people unable to utilize them, thereby limiting their daily life choices. Breaking down inequalities means shifting our focus and actions from the body of the person with a disability to the environment in which they live. This environment must be designed for everyone, according to the principle of *Design for All*. We must remember that *Design for All* is, in fact, "Design for Us," as every individual has accessibility rights and needs, regardless of whether they have a certified disability from the medical system.

Accessibility is the key to participation on an equal basis and the foundation for self-determination, a core principle of the UN Convention. Working on accessibility requires deep reflection and a stronger civic drive from everyone, as it is the pivot that allows all individuals to exercise full rights of citizenship. This is especially true for deaf visitors. Deafness, an invisible disability, is frequently misunderstood and its access needs undervalued. International research confirms that even in countries like Great Britain, which has had modern accessibility legislation since 1995 (Disability Discrimination Act, 1995), most deaf people continue to encounter obstacles with service providers and cultural institutions (Royal Association for Deaf People, 2009). The situation across Europe is equally challenging. Under-represented audiences of museums is a vast, heterogeneous social group; according to the Italian National Institute of Statistic (Istat, 2016), 75% of Italians do not enter a museum even once a year. While some lack interest, many express a desire to visit but face physical, sensory, or cultural barriers (Bollo, 2017). The nature of accessibility is, therefore, multidimensional. To achieve the goals set by the Universal Design framework, accessibility must be addressed as a multifaceted challenge that goes far beyond the mere removal of physical obstacles. A truly inclusive archive must integrate several distinct but interconnected dimensions:

- **Architectural Accessibility:** This involves the elimination of structural barriers to ensure that every user, regardless of mobility, can navigate the historical spaces of the Archive with dignity and independence.
- **Digital Accessibility:** In an era of increasing virtualization, it is essential that digital platforms, search engines, and digitized documents comply with international standards (such as WCAG) to be usable by people with sensory or cognitive disabilities.
- **Linguistic and Communicative Accessibility:** This addresses the "invisible barriers" created by overly complex, "baroque" academic language (Rabbi, 2020). It requires the adoption of **Plain Language** and **Easy-to-Read** standards (Ulrich, 2025) as well as the integration of **Sign Languages** and subtitling to ensure that deaf and hard-of-hearing researchers can access information autonomously.

- **Economic Accessibility:** Participation must not be hindered by financial costs; ensuring that the right to heritage is not secondary to one's socio-economic status is a fundamental pillar of cultural democracy.
- **Cognitive and Sensory Accessibility:** This focuses on the clarity of orientation (wayfinding) and the simplification of complex archival procedures, reducing the "threshold fear" and frustration often experienced by underserved audiences and non-visitors.

2. What Role for the Museum?

Traditionally, the museum is defined by two primary functions:

- **Conservation:** A place for preserving cultural heritage organized in collections, serving the values of memory and history. This function requires specialized academic professionals and likens the museum to a university research center.
- **Exhibition:** Showing and mediating collections to the public, involving curators, technicians, and communication staff. In this role, the museum aligns with institutions like theaters or cinemas, where the public often remains passive.

A newer, third function defines the museum as a **learning environment**. Here, the public takes an active role as learners, and the museum must recognize their goals and potential agendas. As museums increasingly value these second and third missions, accessibility becomes crucial. In a modern democracy, a museum that is not accessible to a large portion of its citizens would essentially abdicate its functions. Cultural institutions have an obligation to communicate with diverse audiences, including those who are linguistically or culturally distant, or disadvantaged by physical and sensory disabilities.

2.1. The Future: From Accessibility to Participation

The concept of accessibility is closely linked to the practice of considering diverse visitors. An accessible museum offers every visitor the opportunity to experience its contents in an individual way. Participation, however, adds a new dimension: the focus shifts to how people can actively take part in the museum's operation and influence its nature and direction. A participatory museum is a space where the visitor becomes a "visit-actor" and protagonist, rather than a passive user. As Marcus Dickey Horley noted, the right to speak about collections now belongs to the audience. Accessibility for people with special needs, framed as equal participation, can be a major driver in dismantling the self-referential nature of museum institutions. The primary barrier to overcome is often the lack of relationship between the museum and its public. Thus, accessibility work becomes an ongoing investigation of mutual discovery to involve visitors in defining and narrating the museum.

3. The Heterogeneity of Deafness: A Tripartite Typology of Visitors

In designing for universal accessibility, it is crucial to recognize that the deaf and hard-of-hearing community is a heterogeneous group with diverse communication strategies and technological aids. A systemic failure in many cultural institutions is the tendency to treat

deafness as a single category, often leading to a "tokenistic delegation" of accessibility to on-call interpreters, which ignores the majority of deaf individuals who do not use sign language. To ensure true independent visits, we must distinguish between three primary profiles:

- Late-deafened adults: these individuals have lost their hearing later in life, often after acquiring spoken and written language skills. They are frequently "invisible" within the museum space as they navigate fluently through written texts and visual exhibits. While they may use hearing aids or cochlear implants, they are profoundly "dis-abled" by environmental noise and poor acoustics, which can render social interaction and multimedia content unintelligible. For this group, architectural and sensory design must prioritize acoustic comfort and high-quality induction loop systems.
- Early-deafened "Oral" users: these visitors have experienced hearing loss from birth or early childhood and have been educated through oralist methods. They typically rely on a combination of speechreading, hearing technology (implants and hearing aids), and written support. Their primary barrier is often the "baroque" and overly academic language used in museum labels, which can be source of frustration and exclusion if not adapted into Plain Language. Also for them, environmental noise is a major barrier.
- Sign Language Users (the Deaf Community): Identifying as a linguistic and cultural minority, these individuals are often proud to be deaf and use the national Sign Language as their first or preferred language. For them, written language is often a second language, and the lack of sign-integrated multimedia or guides represents a significant barrier to autonomy and self-determination. Their participation in the early design phases of an exhibition is a "common denominator" that improves the experience for all visitors by introducing more experiential and emotional communication styles. A fundamental step in achieving universal design within cultural and archival institutions is the recognition of Sign Languages (SL) as autonomous, complex, and fully-fledged linguistic systems. For too long, Sign Languages have been relegated to the status of "assistive tools" or, worse, dismissed as mere pantomime or mimicry. Linguistic research has definitively debunked these myths, demonstrating that Sign Languages possess all the structural properties of spoken languages, including distinct phonology (based on parameters like handshape, movement, and location), morphology, and a sophisticated syntax.

It is a common misconception that Sign Languages are universal. In reality, they are national or regional, deeply rooted in the history and culture of specific Deaf communities. For instance, Italian Sign Language (LIS) is as different from British Sign Language (BSL) or American Sign Language (ASL) as spoken Italian is from English or Chinese. Furthermore, Sign Languages are not "visual translations" of spoken languages; they do not follow the grammar of the corresponding vocal language. A Sign Language possesses its own specific and independent grammar, often utilizing a spatial-simultaneous structure that differs significantly from the linear-sequential structure of spoken tongues. This means that for a Sign Language user, a written text in a vocal language (like Italian or English) is often perceived as a second language, which may present barriers if the syntax is overly "baroque" or elaborately academic.

From a legal and formal perspective, the landscape has shifted significantly following the UN Convention on the Rights of Persons with Disabilities (2006), which mandates that states recognize and promote the use of Sign Languages. Today, Sign Languages have gained formal and legal recognition in many countries, granting them the status of official languages or protected minority languages. This recognition implies that access to information in Sign Language is not a "special favor," but a fundamental right linked to cultural democracy and participation.

Acknowledging these distinct needs allows the institution to move away from a simplistic "one-size-fits-all" solution and towards a participatory model in which accessibility is designed in from the outset, ensuring that no visitor experiences the "bitter taste of failure" during their cultural journey.

3.1. **Critical Barriers in the Deaf Visitor's Journey**

Until very recently, little has been said about deafness in the context of museum visits. Because museums are visually dominated spaces, the difficulties of d/Deaf people are often underestimated. In reality, the exclusion of Deaf and hard-of-hearing visitors is often a systemic failure that begins long before they enter the physical space of the archive or museum. This "dis-abling" process can be analyzed through three critical stages:

a. **Information Gathering: The Digital Threshold**

The first point of contact is usually the institutional website, which frequently acts as an impenetrable barrier.

- **Linguistic Alienation:** Most sites use a "bureaucratic-institutional" register that is far removed from the everyday language of the public.
- **Lack of Sign Language Content:** The near-total absence of Sign Language video summaries makes information inaccessible for those whose primary language is visual-gestural.
- **Consequences:** This lack of accessible preliminary info reinforces self-exclusion, as the potential visitor perceives the institution as "not for them" before even starting the journey.

b. **On-site Experience: The Silence of Multimedia**

Once inside the institution, Deaf visitors often find themselves in a "sensory desert" where information is primarily delivered through sound.

- **The Audio-Guide Paradox:** standard audio guides are unusable, yet they remain the primary tool offered for independent exploration.
- **Guided Tour Dependency:** without pre-arranged Sign Language interpreters, d/Deaf visitors cannot participate in guided tours, stripping them of their autonomy.
- **Multimedia Incompleteness:** digital exhibits often lack visual equivalents (such as captions or sign language clips) for their audio tracks, rendering the "multimedia" experience frustratingly partial and opaque.

C. Linguistic Barriers: The "Baroque" Wall of Text

Perhaps the most significant barrier is the "double disadvantage" faced when encountering written labels and room panels.

- **Expert-to-Expert Communication:** Textual apparatuses are frequently written by specialists for other specialists, favoring an "unnecessarily baroque" style over communicative clarity.
- **Structural Complexity:** For many Deaf people, the vocal national language (e.g., Italian) is a second language. Elaborate syntax, technical jargon, and complex inferences make these texts indecipherable and a source of profound frustration.
- **The "Bitter Taste of Failure":** When an individual cannot decode the content of an exhibit, the visit ceases to be a moment of learning and becomes a reinforcement of social exclusion.

Delegating accessibility solely to on-call Sign Language interpreters is not a best practice. Museums often resort to outsourcing accessibility by hiring on-call sign language interpreters, rather than creating an inherently inclusive environment. The true revolution would be guaranteeing independent visits. The deaf visitor must be able to access the museum autonomously through tools designed to speak to everyone.

4. International Best Practices: Methodological Approaches and Practical Solutions

True innovation lies in designing for autonomy: creating room panels in *Plain Language*, integrating QR codes with Sign Language videos, and ensuring that all multimedia content is natively accessible. Only then can we bridge the gap between the institution and its public, transforming the visitor into a true protagonist and without discrimination based on the disability.

4.1. Redefining the Approach to Written Heritage: Beyond Visual Access

A common misconception in cultural and museum studies is that written text, being delivered through a visual channel, is inherently accessible to Deaf and hard of hearing visitors. In reality, the traditional approach to institutional writing creates a significant wall of exclusion. Most museum and cultural texts are currently written "by experts for experts," favouring an elitist and academic register over communicative clarity. To truly democratize culture, institutions must learn to produce texts that are suitable for all audiences, acknowledging that linguistic accessibility is a fundamental pillar of cultural democracy. The barriers preventing deaf and underserved visitors from engaging with written content are multi-layered and can be categorized into three primary types:

Perceptive Barriers: These relate to the visual delivery of information. The use of serif fonts, justified text, and insufficient chromatic contrast between text and background can hinder readability. Furthermore, overly dense text blocks and the absence of coherent, supportive imagery make the decoding process physically and cognitively taxing.

Linguistic Barriers: These are rooted in the formal structure of the language used. High-frequency vocabulary is often discarded in favour of technical or archaic jargon. Complex syntax characterized by excessively long sentences and multiple subordinate clauses presents a major obstacle for those whose primary language is a national sign language and for whom the national vocal language is a second tongue.

Thematic Barriers: These involve the "implicit" requirements of the text. Academic writing often assumes a vast level of prior encyclopaedic knowledge and relies on complex inferences that may be indecipherable to the non-specialist.

Crucially, adapting these texts does not mean "simplifying" them in a reductive or demeaning way. True accessibility involves a shift towards Plain Language and Easy-to-Read standards that preserve scientific accuracy while ensuring clarity. In many cases, making a text accessible does not mean cutting content; rather, it means adding contextual clues, visual aids, and structural markers that guide the reader. By transforming written content from a "display of knowledge" into a tool for dissemination, the museum ceases to be an elitist space and becomes a welcoming environment for independent visits and autonomous research.

4.2. Sign Language Video Production: Technical Standards and Ethical Imperatives

The translation of museum labels, room panels, and educational materials into National Sign Languages is a cornerstone of accessibility. As previously established, Sign Languages are autonomous linguistic systems utilized by extensive communities of signers worldwide. To ensure that these video translations are effective and respectful, institutions must adhere to specific technical, ethical, and identity-driven standards.

Technical and Visual Setting

Sign Language videos require a rigorous professional setting to support clear communication, particularly for the significant percentage of d/Deaf individuals with varying degrees of visual impairment or age-related sight loss.

Duration and Contrast: Videos should ideally not exceed three minutes to maintain engagement. The background must provide high chromatic contrast to ensure the signs are clearly visible.

The Actor's Appearance: The translator should wear formal clothing that contrasts with their skin tone (e.g., a fair-skinned actor wearing black). To avoid visual "noise" or interference, the actor should avoid rings, necklaces, excessive makeup, or bold patterns.

The importance of Deaf translators

Best practices dictate that the actors in these videos should themselves be Deaf. This choice is supported by three fundamental pillars:

1. **Linguistic Quality:** Deaf individuals are native signers; their involvement ensures a superior linguistic result that is clearer, more accurate, and more natural.

2. **Ethical Responsibility:** in accordance with the UNCRPD, providing professional opportunities for Deaf people is a matter of justice. It transforms them from passive users into professional protagonists within the cultural sector.
3. **Identity and Empowerment:** seeing a Deaf translator provides a powerful model of an empowered and emancipated individual, fostering empathy and cultural recognition.

4.2.1. The Production Workflow

The process of creating inclusive video content is a collaborative effort involving several specialized stages:

Drafting and Revision: The museum provides the texts, which are reviewed to remove the linguistic barriers previously identified. The museum is required to check the revised text and give formal approval of the final result, which will be translated into sign language.

Visual Support: Images are requested to ensure translational precision and to provide visual scaffolding for the viewer's understanding. These images will be later incorporated in the video editing.

Review Cycle: A draft video from the written text is produced for feedback and correction before final professional recording. The Deaf translator is filmed in a professional recording studio, utilizing the previously approved draft as a guide on a teleprompter. By following the draft video, the Deaf professional reproduces the performance, fine-tuning the speed, rhythm, and linguistic register to suit a formal cultural setting. The recording is conducted using a green screen to facilitate high-quality post-production.

Post-Production: This involves professional editing, the addition of the synchronized photos, subtitles, and a voice-over to ensure the content is accessible in three modes: signed, written, and oral. This system, with vocal language both spoken and written, images and sign language can be considered a very good example of UDL – Universal Design for Learning. The core of UDL, in fact, is the provision of multiple means of representation for the cultural content. By diversifying how content is delivered, a cultural institution acknowledges that learners (and visitors) perceive and comprehend information in vastly different ways: the transition from a mono-modal (text-only) display to a multi-modal video format drastically lowers the barrier to entry for a wide array of audiences. This is also a way to provide evidence of linguistic pluralism: providing the National Sign Language validates the linguistic identity of the Deaf community; the Audio-Visual scaffolding with the inclusion of a professional voice-over supports late-deafened adults and hearing visitors, while synchronized imagery provides the necessary visual cues to anchor abstract archival concepts in concrete reality. Textual support, with high-contrast subtitles assist early-deafened oral users and non-native speakers, ensuring that the "expert-to-expert" barrier is dismantled through clear, readable text. As the variety of representation modes increases, so too does the probability that larger segments of the under-represented museum public will successfully decode and engage with the cultural message. This transformation is essential for the modern institution to fulfil its primary mission.

The museum is no longer merely a "silent" place of conservation and passive display; it evolves into a dynamic learning environment and a hub for the dissemination of knowledge. In this light, accessibility is not an "add-on" for a minority, but a strategic tool for cultural democracy. By designing for the most complex needs from the outset, the institution creates a richer, more robust educational experience for everyone, truly functioning as a formative space for all citizens.

Dissemination and Delivery

To ensure the "independent visit" for deaf visitors, these videos must be easily accessible through multiple channels:

a. **On-site Access:** strategically placed QR codes within the exhibit and/or fixed monitors in the galleries. The decision between utilizing QR codes or fixed monitors represents a strategic curatorial choice, which depends on several contextual factors, such as the exhibition design and style, the presence of dedicated projection rooms or information screens in the entrance halls, the physical space available within the galleries to accommodate hardware without obstructing the flow of visitors. Another crucial aspect to consider is the availability of a robust, free, and high-speed Wi-Fi network, which is essential for visitors to access cloud-based content via QR codes using their own devices.
b. **Digital Platforms:** Integration into museum web apps, where Sign Language should be listed alongside other foreign languages and publication on the official institutional website. The design of dedicated accessibility sections within institutional websites is of paramount importance for the modern museum, serving as a digital bridge between the collection and its diverse audiences.

This strategic digital presence fulfils several crucial functions:

Transparency and the "Digital Threshold": The first role of an accessibility page is to provide clear, honest, and detailed information regarding the institution's inclusive provisions. This is crucial at least for three main aspects:

Managing Expectations: It is essential to inform the public whether the venue is fully or partially accessible, explaining exactly what they will encounter on-site.

Identifying Tools and Languages: The website must specify the availability of tools such as Sign Language-integrated videos, Plain Language guides, Augmentative Alternative Communication pictograms, or tactile paths.

Overcoming Self-Exclusion: By providing this data, the institution directly addresses "threshold fear", reassuring underserved audiences that their specific access needs have been anticipated and met.

Longitudinal Learning Environment: Beyond simple logistics, the digital space acts as a repository that extends the cultural experience before and after the physical visit. We can identify three moments when the digital repository can act as teaching platform:

Pre-Visit Preparation: Providing materials such as Easy-to-Read summaries, or Sign Language introductions allows visitors, particularly those with cognitive disabilities or sensory sensitivities to build familiarity with the content and layout in advance.

Post-Visit Engagement: After the visit, the website serves as a platform for deeper reflection, allowing users to revisit complex historical documents or multimedia content at their own pace.

Continuous Learning: In this sense, the website transforms the museum from a static physical location into a pervasive learning environment, ensuring that the cultural message remains available for study and enjoyment long after the visitor has left the building.

5. **Conclusion**

While the accessibility of cultural collections is gradually becoming a strategic priority across Europe, a truly systemic and cohesive vision remains elusive. Too often, initiatives are confined to uncoordinated, local experiments or "pioneering" individual efforts that lack long-term institutional integration. To move beyond this fragmented landscape, the cultural institutions and museum sectors must adopt a strategic planning model that addresses the full spectrum of physical, digital, sensorial and linguistic barriers. Central to this transformation is the shift from "adapting" exhibitions as an afterthought to designing for accessibility from the outset. By involving people with disabilities and Deaf professionals in the earliest stages of ideation, curators can bypass the outdated model of "outsourcing" inclusion to external agencies. This participatory approach does more than just remove obstacles; it introduces multifaceted, experiential, and emotional methods of representation that allow every visitor to feel like an equal protagonist of the historical narrative.

Furthermore, true accessibility is inseparable from the concept of hospitality (Miglietta, 2017). It requires a holistic investment in staff training, from security and custodians to researchers and bookshop personnel, ensuring that the "first point of contact" is one of welcome rather than "threshold fear". When institutions embrace Universal Design for Learning (UDL), providing multiple means of representation through Sign Languages, Plain Language, and synchronized multimedia, they cease to be mere repositories of the past. Instead, they evolve into dynamic learning environments that foster cultural democracy and dissemination. Ultimately, accessibility is the act of accepting diversity as the fundamental, normal condition of a modern society. When visitors with special needs are empowered to "conquer" the museum through independent visits and autonomous research, they gain the tools to feel at ease not only within cultural halls but in all aspects of social and civil life. By opening the vaults of memory to everyone, the institution finally fulfills its highest purpose: to serve as a truly inclusive pillar of shared identity and human rights.

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INCLUSIVE STORYTELLING INTELLIGENCE: REIMAGINING CULTURAL HERITAGE COMMUNICATION FOR AUDIENCES WITH DISABILITIES IN THE DIGITAL AGE

Kevser ÇINAR

INCLUSIVE STORYTELLING INTELLIGENCE: REIMAGINING CULTURAL HERITAGE COMMUNICATION FOR AUDIENCES WITH DISABILITIES IN THE DIGITAL AGE

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Abstract

Digital transformation has profoundly restructured the ways how cultural heritage is interpreted, experienced, and communicated by creating new opportunities as well as new challenges for accessibility and inclusion. Despite significant advances in digital technologies, many people with disabilities still have significant barriers in accessing and comprehending cultural heritage assets due to several reasons, such as inaccessible communication, insufficient consideration of diverse user needs, and limited interpretive approaches. Based on the theoretical groundwork of heritage interpretation and the empirical results of the Erasmus+ iNCLUSION project, this chapter introduces "Inclusive Storytelling Intelligence" (ISI) as a conceptual framework and a unified competency model for combining accessibility, digital culture, heritage interpretation, and audience co-creation. The chapter discusses the four core dimensions of the framework: Inclusion and Special Education Competence, Heritage Interpretation Competence, Digital Culture and Content Design Competence, and Evaluation and Co-Creation Competence, and demonstrates how these dimensions contribute to more meaningful, accessible, and participatory cultural communication. Furthermore, lessons learned from the iNCLUSION project, including multimedia storytelling, Easy-to-Read materials, Open Digital Badges, micro-credentials, and policy recommendations, are presented to illustrate practical applications of the framework. In this sense, accessibility is not just seen as the legal baseline for more "bureaucratically enforced" participatory approaches but as a stimulating factor for innovation, social cohesion, and audience engagement. The conclusion outlines the implications regarding curriculum developments, professional training, and future practices related to cultural heritage within increasingly diverse and digital societies.

Keywords

Inclusive Storytelling Intelligence, *Cultural Heritage*, *Accessibility*, *Digital Storytelling*, *Heritage Interpretation*, *Disability Inclusion*.

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Digital transformation has changed the cultural heritage sector and has rewritten how culture is to be preserved, understood and shared. Today, museums, archives, and heritage sites are built for multimedia storytelling and interactive digital tools, which have a dual purpose. One, they break down physical barriers to access and bring in much larger global audiences (Bonacchi & Krzyzanska, 2019; Giaccardi, 2012; Parry, 2013). On the other hand, this digital revolution has changed what audiences expect from cultural institutions. Today's visitors don't want to just passively consume content but have a desire for participatory, personal, and multisensory spaces where their voices and feelings can be heard and their cultural narratives are shared (Jenkins, 2006; Sandvik, 2011).

Despite the increase in awareness of accessibility and inclusivity, people with disabilities still face significant barriers to cultural attractions due to a lack of appropriate information channels and ways of interpretation, sensory adaptation, and a insufficient accommodation of cognitive diversity (Körmeçli, 2024; Sandell et al., 2010; Yavuzer et al., 2025). Therefore, many cultural experiences are still not entirely or partly accessible to visitors with visual, auditory, intellectual, mobility, and neurodevelopmental disabilities. This situation remains unsolved in the world, despite international norms such as the UN-CRPD (United Nations Convention on the Rights of Persons with Disabilities) that underline cultural participation as a basic human right. To fill this gap, recently, more literature says that accessibility can't be a technical solution or a legal compliance checkbox. Instead, it must be understood as integral to the foundation of cultural communication and universal experience design (Black, 2012; Sandell et al., 2010). Heritage scholars have argued that a truly memorable and high-quality cultural experience is not a one-way exchange of historical data, but a two-way transmission of the experience (Falk & Dierking, 2018; Smith, 2006). Real accessibility is not only about access to content itself; it is also about access to meaning. The biggest management challenge for contemporary cultural institutions is not so much to provide access to assets as to make them intellectually accessible, engaging and universally relevant to people from a global population.

Digital technologies are an important strategic lens through which to address this inclusion deficit. Recent literature has shown the capacity of accessible digital storytelling, multimodal communication, immersive technologies and AI-enabled accessibility tools to enhance accessibility and participation in cultural heritage contexts (Lian et al., 2024; Nappi et al., 2024; Pisoni et al., 2021). Yet cultural organizations and destination operators often lack well-grounded, field-proven models that bring accessibility, heritage interpretation systems, digital culture and audience engagement to reality in the field. Higher education in tourism and hospitality often does not provide an integrated set of skills necessary for future professionals working in both spaces. The Erasmus+ iNCLUSION project was developed to make up for this growing gap in knowledge and knowledge sharing between the industry and academia. Through research, accessibility training, inclusive digital storytelling activities, multimedia eBooks, Open Digital Badges, skills portfolios, and policy recommendations, we explored how cultural heritage communication could be redesigned to create community-based experiences for people with disabilities. These experiences drive this chapter's idea of Inclusive Storytelling Intelligence (ISI). The new paradigm integrates heritage interpretation, accessibility, digital culture literacy (multimodal storytelling) and visitor co-creation into an integrated experience-centred approach to new cultural communication.

The chapter argues that the future of inclusive cultural heritage management isn't about retrofitting existing stories for people with disabilities but about the foundational reform of cultural stories. It is a process that will take the shift from basic information delivery to a more intellectual understanding, from physical access to full experience design and in turn elevate the audience from passive consumers of history into co-creators of cultural value (Hooper-Greenhill, 2000; Sandell et al., 2010). That's also how we replace information-driven perspectives with audience-centred visitor experiences. Digital heritage infrastructures, adaptive narrative frameworks and AI-driven visitor experiences are fast-growing and human resources are needed to bridge the gap between accessibility, emerging technologies and heritage interpretation (Lupo, 2023; Pisoni et al., 2021). Based on the theoretical basis of this approach and the results of the iNCLUSION project, this chapter contributes to the current discourse on cultural heritage to be more accessible, engaging and meaningful to a diverse and inclusive set of people in digital space. It explores how cultural heritage can engage citizens more actively, reflect different experiences and remain socially relevant in a digital society in which people are now connecting with their past.

1. **Cultural Heritage, Accessibility and Digital Transformation**

Cultural heritage does not mean only artefacts, monuments, historic sites or traditions. It is an adaptive mechanism through which people and societies create identities, share meanings, and transfer values from one generation to the next. Heritage is now argued to not have a fixed meaning on its own. Instead, it is generated through interaction, interpretation and experiences (Falk & Dierking, 2018; Smith, 2006). For many years, cultural inter-

pretation has been the link between cultural resources and the cultural heritage people are engaged with (Tilden & Craig, 2007). Most people come to heritage sites not just to learn their historical information, but also to have experiences that are connected to their memories, interests and identities. Museums and heritage organisations have been moving away from expert-led approaches in recent years. Instead, they have been creating more participatory models that encourage dialogue, collaboration, and active visitor involvement, and recognise audiences as part of the heritage experience rather than as passive consumers of information (Black, 2012; Sandvik, 2011).

Despite these advances, many people still have difficulty accessing and connecting with cultural heritage. Accessibility efforts should not be on the physical (access to ramps, lifts and adapted facilities) side of things. These are necessary, but they only address one part of the problem. Access to cultural participation also requires information to be easy to understand, a lot of stories to be shared with the audience, and for people to come together and make a contribution to cultural experiences. The barriers to participation for many people with visual, auditory, intellectual, mobility or neurodevelopmental disabilities (Sandell et al., 2010) are still there. As cultural participation has been recognized as a human right, so has accessibility. The United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2006) recognizes the right of people with disabilities to participate in cultural life on an equal basis with others. So accessibility is becoming not just a legal requirement to be met but a matter of universal cultural citizenship and equity.

Digital technologies allow people to access heritage more fluidly and meaningfully and in a variety of settings and contexts (Yavuzer et al., 2025; Yüksek & Sökmen, 2021). Mobile and online platforms are particularly useful for multimedia storytelling that brings together text, audio, images, animation, and interactive features. By providing information in a variety of forms, these platforms allow users to hear stories in different visual and physical formats and to get information at their own pace and at their own level. This reflects a broader movement in heritage and tourism research towards more participatory, personalised, and user-centred communication. These are particularly relevant in terms of accessibility as they open up new ways in which cultural heritage experiences can be inclusive and responsive to different audiences.

There is growing attention to the potential of accessible digital storytelling, adaptive interfaces, audiovisual interpretation, and AI-powered accessibility tools for cultural heritage experiences (Lian et al., 2024; Nappi et al., 2024; Pisoni et al., 2021). Digital platforms can provide people with various ways to access and engage with information in a way that they can, as a consequence, adapt to their own needs, abilities, and learning preferences. A single cultural story can be transmitted through Easy-to-Read text, audio descriptions, subtitles, sign language, or interactive multimedia formats. As a result, heritage institutions can make their content more inclusive while still maintaining the richness and authenticity of the story. Accessibility should be considered from the earliest stages of design and integrated throughout the interpretation, storytelling, and visitor experience development process rather than

being introduced as a final adaptation (Bonacchi & Krzyzanska, 2019; Diken et al., 2025; Giaccardi, 2012). This is not only about making cultural content available and accessible, but also about all kinds of visitors having an active role in interpreting and experiencing this, which is a challenge at the core of contemporary cultural heritage practice. In this context, Inclusive Storytelling Intelligence, brings together accessibility, heritage interpretation, digital innovation, and audience engagement into an integrated perspective.

2. **From Storytelling to Inclusive Storytelling**

For cultural heritage interpretation, storytelling has always been a central element. It is used to convey knowledge, preserve collective memory, communicate cultural values and to establish emotional connections (Falk & Dierking, 2018; Tilden& Craig, 2007). Traditional storytelling strategies assume a fairly homogenous audience with the same abilities, experiences and modes of understanding. However, audiences are diverse not only in cultural background and knowledge but also in how they perceive, process and interact with information (Hooper-Greenhill, 2000; Sandell et al., 2010). With cultural institutions coming to terms with a focus on inclusion and accessibility, the story needs to be re-evaluated (Shakespeare, 2017; United Nations, 2006).

Inclusive storytelling is not simply the adaptation of an existing narrative for particular audience groups. Instead, it is a change in how culture communicates and one that is accessible, meaningful, and engaging to others (Sandell et al., 2010; Shakespeare, 2017). Inclusive storytelling is closely aligned with Universal Design principles and disability-inclusive communication practices that advocate designing cultural experiences to be accessible from the outset rather than retrofitting accessibility after content creation (Diken et al., 2025; Pisoni et al., 2021). Easy-to-Read methods are designed to make information easier to understand for people with intellectual and cognitive disabilities through clear language, logical structure, concise sentences, and supportive visual elements.. But there are benefits beyond the typical user group. These principles are consistent with the accessibility framework developed within the iNCLUSION project, which demonstrates how Easy-to-Read methodologies, cognitive accessibility, and universal communication strategies can support more inclusive heritage interpretation (Diken et al., 2025).

Simplified narratives will help especially people with disabilities or older adults and people with limited literacy or language proficiency. Thus, ETR is not a reduction in cultural content but rather an expansion of access to cultural meanings (Shakespeare, 2017). At the same time, inclusive storytelling acknowledges that communication does not work simply by text alone. Digital transformation has opened up the pathway of cultural communication to multiple means of expression (Benardou et al., 2017; Bonacchi & Krzyzanska, 2019; Parry, 2013; Şeker et al., 2025; Yavuzer et al., 2025; Yüksek & Sökmen, 2021). Images, sound, video, animation, audio description, subtitles, sign language, tactile features, and interactive features can be integrated together to create richer and more accessible experiences. This kind of multimodal communication acknowledges how people learn to digest infor-

mation and respond differently. Rather than offering an easy way to get to a single level of understanding, it allows for different points of access for people to get involved with cultural stories (Nappi et al., 2024; Pisoni et al., 2021).

The importance of these approaches goes beyond just accessibility. Studies show that meaningful cultural experiences are highly influenced by emotional engagement (Falk & Dierking, 2018; Smith, 2006). People remember and value cultural experiences more when they connect to the story being told. Accessibility is therefore relevant not only to inclusion but to interpretation as well. People who understand, relate to, and contribute to cultural stories are more active participants in the process of meaning-making (Hooper-Greenhill, 2000; Sandvik, 2011).

This perspective is also supported by disability-inclusive heritage research and practice, which focuses on participatory design, co-creation and social construction of meaning in museum, archive and digital storytelling contexts (Giaccardi, 2012; Sandell et al., 2010; Sandvik, 2011). The experiences of the iNCLUSION project illustrate this change. Through the creation of multimedia eBooks, Easy-to-Read stories, audiovisual storytelling units and accessibility-oriented digital resources, the project showed how inclusive storytelling can integrate accessibility, digital culture and heritage interpretation in one work. Building on these experiences, in the next section, the Inclusive Storytelling Intelligence (ISI) as a competence framework to design meaningful cultural experiences in increasingly diverse and digital societies will be explained.

3. **The Inclusive Storytelling Intelligence Framework**

The literature has shown that accessibility, heritage interpretation, digital culture and audience participation have often developed as separate fields of research (Bonacchi & Krzyzanska, 2019; Nappi et al., 2024; Pisoni et al., 2021). Cultural heritage studies have historically been about interpretation and meaning-making, accessibility research has been about overcoming barriers, and digital culture scholarship has been about the potential of new technologies (Parry, 2013). But cultural institutions are increasingly located at the intersection of these areas. To deal with this reality, we need professionals who understand heritage values, universal design principles, utilize digital technologies, and engage with a wide range of audiences. Building on the results of the Erasmus+ iNCLUSION project, the next part describes Inclusive Storytelling Intelligence (ISI) as an integrated competence framework that can address this need.

The framework was formed through project research, training activities, multimedia content development and stakeholder engagement in relation to cultural professionals, students at higher education, disability organizations and persons with different accessibility needs. Rather than seeing access as a separate competence, the framework composes accessibility as an integral element of cultural communication. Inclusive Storytelling Intelligence is defined as the capacity to transform cultural heritage into meaningful, accessible, and emotionally engaging experiences by integrating content interpretation, digital culture, and accessibility with co-creation.

Figure 1
The Inclusive Storytelling Intelligence Framework



Source: Developed by the author based on the policy recommendations generated through the Erasmus+ KA220-HED iNCLUSION Project (Project No. 2023-2-TR01-KA220-HED-000177708), drawing upon project research findings, stakeholder consultations, accessibility needs analyses, co-creation workshops, multimedia content development, and pilot implementation activities conducted across the project consortium.

The first dimension of the framework is Inclusion and Special Education Competence. Cultural communication requires knowledge of how different people think, process and react to the information. So professionals need to understand Universal Design principles, cognitive accessibility, Easy-to-Read methodology and inclusive communication. And recent research indicates that accessibility should be integrated into the design process rather than only as a last step (Altın & Güngör, 2024; Körmeçli, 2024; Pisoni et al., 2021; Sandell et al., 2010). In the iNCLUSION project, this competence was utilised through Easy-to-Read approaches, accessibility-focused content design, and the adaptation of cultural narratives for people with different disabilities. The second dimension is Heritage Interpretation Competence, which reflects the ability to transform cultural heritage knowledge into meaningful and engaging narratives. Cultural heritage resources acquire greater meaning when they are connected to people's experiences, values, and identities (Falk & Dierking, 2018; Smith, 2006). Therefore, professionals need to understand heritage significance, develop compelling narratives, facilitate meaning-making and emotional connection, and translate complex cultural and his-

torical information into engaging and accessible stories. These competencies enable heritage professionals to move beyond the transmission of factual information and create interpretive experiences that resonate with diverse audiences.

The third dimension, Digital Culture and Content Design Competence, is the emerging need of digital technologies in heritage communication. Today's audiences are experiencing heritage through digital environments, mobile applications, immersive technologies and multimedia platforms. So they need digital storytelling, content architecture, multimedia production, user experience design, and digital ethics skills (Bonacchi & Krzyzanska, 2019; Nappi et al., 2024). Technology is used not for convenience but to create a more inclusive and meaningful cultural experience. The fourth dimension is Evaluation and Co-Creation Competence. This dimension emphasises the active involvement of audiences and communities in the design, interpretation, and evaluation of cultural experiences. Professionals therefore need competencies in user testing, participatory design, audience feedback integration, impact evaluation, and collaborative content development. These competencies help cultural institutions move from designing for audiences to designing with them and ensure that cultural experiences reflect diverse needs, perspectives, and lived experiences.

Those four domains combine to produce what this study would characterize as Inclusive Storytelling Intelligence. The signature competence of this is to create cultural experiences that are meaningful, accessible, technologically relevant and participatory at the same time. Rather than focusing on information transmission, Inclusive Storytelling Intelligence is concerned with understanding, emotion and shared meaning-making. It elevates accessibility from a duty to take care of into something inventive, just as storytelling becomes a mechanism of cultural inclusion.

The importance of this framework is not just to the heritage sector. As digital transformation, demographic change, and social inclusion become more important policy priorities, there is a need for professionals who can bridge culture, technology, and accessibility. As such, the Inclusive Storytelling Intelligence framework provides a conceptual framework for cultural communication, as well as a basis for curriculum design, skills development, micro-credentials, and future professional profiles for cultural and creative professionals.

4. **Lessons from the iNCLUSION Project**

The iNCLUSION project showed us that accessibility in cultural heritage is not something that can be addressed through separate initiatives. Inclusion requires a systemic approach that involves accessibility, interpretation, digital innovation, education and audience engagement. The research and training programmes, digital outputs and policy development of the project were all in place to address persistent challenges and provide for future cultural communication. One of the most important lessons is the skills gap in the cultural industry. The project surveys suggested that many cultural professionals have a good knowledge of the discipline but lack competency in accessibility, inclusive com-

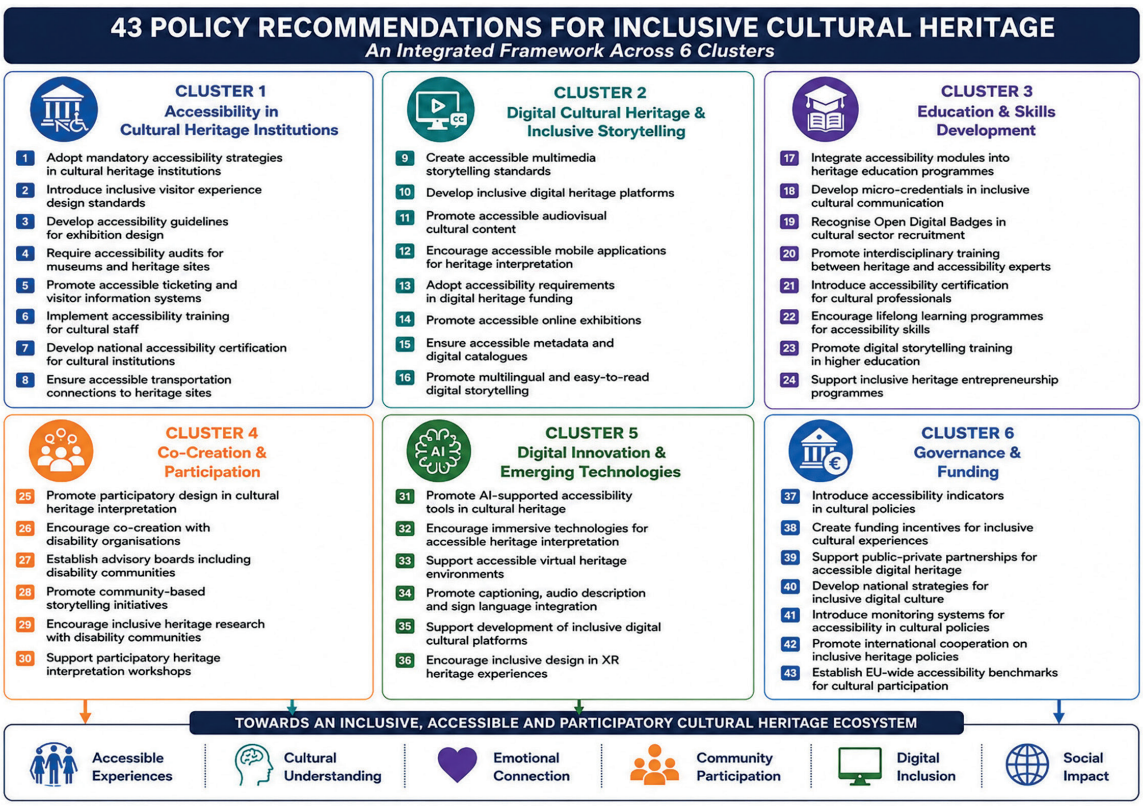
munication, audience diversity and digital content adaptation (Şeker et al., 2025). These findings are representative of the broader concerns elevated in disability studies, where inclusion is increasingly seen as a question of social participation rather than merely physical access (Garland-Thomson, 2011; Shakespeare, 2017). The project, therefore, highlighted the need for new cross-disciplinary professional profiles to be able to address cultural heritage, accessibility, and digital culture. These findings directly informed the development of the Inclusive Storytelling Intelligence framework and the associated Skills Portfolio proposed in this chapter (Şeker et al., 2025).

The development of multimedia eBooks and simplified narratives also highlighted that multiple communication formats are important for heritage interpretation. By combining Easy-to-Read content, visual supports, audiovisual resources, and digital storytelling techniques, the project created cultural experiences for people with diverse cognitive, sensory, and learning capacities. This approach is in line with digital heritage in contemporary times, which focuses on adaptive narratives and user-centred cultural experiences (Benardou et al., 2017; Nappi et al., 2024). The project implications show that accessibility measures did not lessen the richness of heritage stories. It was often the case that it worked better when it came to clarity, engagement, and understanding for all users.

Open Digital Badges and micro-credentials are also valuable outputs to return to. Conventional qualification systems may be unsuited to the emerging interdisciplinary skills, notably those acquired in project-based or non-formal learning environments. The badge system developed in iNCLUSION was also demonstrated by participants as competencies in inclusive storytelling, accessibility adaptation, digital content design, and cultural communication. The development also validated the growing global interest in a more flexible recognition of skills that are beneficial for lifelong learning and job mobility. It also illustrated the power of micro-credentials to bridge the gap between higher education and the shifting demands of the cultural and creative industries. The project's policy recommendations aspect could also be noted as a significant factor. These 43 policy recommendations were derived from consultations with stakeholder groups, and their implementation underlined the necessity to shift away from compliance-based accessibility models towards participatory, innovative approaches.

Figure 2 shows the iNCLUSION Policy Framework for Inclusive Cultural Heritage with 43 policy recommendations in six interconnected clusters: Accessibility in Cultural Heritage Institutions, Digital Cultural Heritage and Inclusive Storytelling, Education and Skills Development, Co-Creation and Participation, Digital Innovation and Emerging Technologies, and Governance and Funding. The framework is a holistic approach to cultural inclusion in terms of accessibility, digital transformation, professional capacity building, participatory practice, technological innovation and policy support. These recommendations make sense for policymakers, cultural institutions, educational organizations and heritage professionals to take action to contribute to the development of equitable cultural participation and to make cultural heritage more accessible, inclusive and future-oriented.

Figure 2
Policy recommendations for inclusive cultural heritage.



Source: Developed by the author based on the findings and policy outputs of the Erasmus+ KA220-HED iNCLUSION Project (Project No. 2023-2-TR01-KA220-HED-000177708), including project research, stakeholder consultations, pilot implementations, and policy analyses.

In the recent heritage literature, inclusive governance, collaborative decision-making and broader social participation in cultural heritage systems have emerged as key (Heritage et al., 2023). The application of the project activities indicates that accessibility is by no means isolated or only a singular problem, but rather a core aspect of cultural sustainability and social participation. Digital innovation is also becoming increasingly central to the future of cultural heritage practice. Emerging technologies, such as immersive environments, AI-enabled accessibility tools, adaptive storytelling and interactive heritage platforms, are paving the way to higher engagement (Lupo, 2023; Martusciello et al., 2025; Xu et al., 2025). But the project demonstrated that technological innovation alone cannot be enough. The most successful outcomes were achieved when digital tools were combined with human-centred design and co-creation processes with disability communities. Similar conclusions have been presented in participatory digital storytelling research, which suggests that collaboration and common authorship are essential for creating cultural experiences (Vrettakis et al., 2019).

The iNCLUSION project also points out that the future of accessible cultural heritage is not just about making information available but about providing opportunities to work together, interpret and create meaning. The project's experiences provide concrete evidence that accessibility, digital transformation and storytelling can be mutually reinforcing components of cultural communication. In doing so, they provide a solid foundation for the Inclusive Storytelling Intelligence framework in this chapter and in future efforts to build more inclusive and participatory cultural ecosystems.

5. Implications for Higher Education and Cultural Institutions

Traditional heritage education programmes are generally based on historical knowledge, conservation, and heritage management. These are important, but are no longer sufficient for modern cultural communication problems. Digital technologies increasingly intersect with accessibility and participatory learning, and the need for graduates to combine the knowledge of multiple areas and turn them into meaningful experiences for different audiences (Benardou et al., 2017; Lupo, 2023). In the field of emerging professionals, the idea of the Inclusive Digital Heritage Designer is an especially relevant one. In this role, a professional is in charge of heritage interpretation, accessibility, digital storytelling, and user experience design. They have the task of creating cultural stories that are engaging, accessible, and technologically flexible. Such professionals need knowledge of heritage and how to structure and utilize heritage and how to engage and interact with the public in the design process. As digital heritage ecosystems are developed (e.g. digital twins, immersive environments, and adaptive storytelling platforms), the need for cultural and technological experts to be involved in these ecosystems is growing as well.

The greater importance of participation and co-creation is also reflected in the change in terms of professional identity in cultural institutions. Future practitioners are going to have to be not just creators of content but also facilitators of dialogue, collaboration and community engagement. Recent research on participatory technologies suggests that users are more likely to play an active role in cultural experience creation, interpretation, and evaluation (Scharnhorst et al., 2026). This is especially relevant for those with disabilities due to the move from design for communities to design with them. In such cases, co-creation, user testing and participatory design skills are most likely to become core competencies in heritage education and professional development. The future labour market will further drive these changes.

With the development of artificial intelligence, immersive technologies, adaptive interfaces and gamified cultural experiences, new opportunities for engagement are being created that are also increasing the need for new skills (Martusciello et al., 2025; Xu et al., 2025). Heritage professionals will have to understand not only cultural content but also digital infrastructure and data management protocols, accessibility standards and human-centred design. At the same time, employers are looking for evidence of unique competencies that cannot be captured by standard qualifications alone. This prospect is a strong argument for micro-credentials, digital badges, and portfolio-based evaluation systems that recognize new interdisciplinary skills. To prepare professionals for this recent change, educational models must

focus on creativity, flexibility, lifelong learning, and interdisciplinary collaboration. The skills portfolio, which has been created to meet these expectations out of the iNCLUSION project, includes competence development, micro-credentials, and labour market recognition in a coherent framework. The Skills Portfolio was designed as a direct response to the identified labour market needs by translating accessibility-related competencies into observable, assessable, and employer-readable micro-credentials (Şeker et al., 2025).

The impact of Inclusive Storytelling Intelligence goes well beyond accessibility. This framework shows that cultural professionals are being asked to integrate heritage interpretation with digital innovation, accessibility and participation in their practice. For higher education institutions, this requires curriculum innovation and new pedagogical strategies. And for cultural institutions, new skills, working with other people, and inclusive design cultures are needed. This is all about creating cultural experiences that can be accessible, meaningful, participatory and socially relevant.

6. **Conclusion**

The digital transformation in cultural heritage is not happening just as a technological shift. It embodies a broader transition in how cultural meaning is created, communicated, and experienced. With the growing interest of cultural institutions in reaching out to a wider range of people, traditional approaches based on information transmission are not enough. Accessibility, participation, and digital innovation should be understood as distinct but interconnected dimensions of contemporary cultural communication. Inclusive Storytelling Intelligence was proposed as a framework which could bring all these aspects together through the integration of accessibility, heritage interpretation, digital culture, and co-creation.

The central argument of this chapter is that cultural communication should move from information to understanding. Cultural institutions have long sought to offer knowledge, collections, and historical facts. But access does not mean engagement or meaning-making. As heritage scholars have emphasized, cultural experiences become meaningful when people can relate heritage narratives to their own lives, values, and identities (Hooper-Greenhill, 2000; Tilden & Craig, 2007). The iNCLUSION project showed that accessible storytelling methods (Easy-to-Read content, multimedia narratives, and adaptive communication methods) are capable of providing real-life, culturally relevant, and complex context so that we do not lose sight of the richness and complexity of cultural heritage. Access to this content is what creates a pathway to deeper understanding rather than superficiality.

The chapter also promotes a shift from the audience to the co-creator. Digital culture is changing the relationship between cultural institutions and their communities. Today's audience is craving to be involved, contribute and engage with information rather than just sit back (Jenkins, 2006; Sandvik, 2011). For people with disabilities, participatory approaches are essential, as they recognize lived experience as a great source of knowledge and expertise. The co-creation activities used in the iNCLUSION project demonstrated that more inclusive and meaningful cultural experiences emerge when users are involved

in the design, evaluation and interpretation of cultural content. This approach is consistent with the overall movement towards participatory heritage and creative cultural governance (Giaccardi, 2012; Sandell et al., 2010).

The future of inclusive cultural heritage will be shaped by the convergence of accessibility, digital innovation, and emerging forms of cultural participation. For example, digital twins, adaptive storytelling systems, immersive environments and AI-enabled accessibility tools offer the potential to further cultural participation in a new way (Lupo, 2023; Nappi et al., 2024). Yet these technologies raise important issues of ethics, representation, inclusion and digital equity as well. As we have seen with ICCROM's future-driven heritage agenda, cultural institutions should respond to social and technological change more rapidly and more strategically (Heritage et al., 2023). There are implications that go beyond technology. Future progress remains to be made in developing new professional competencies, educational models, and institutional cultures that have accessibility and participation at the centre of cultural practice. The Skills Portfolio, Open Digital Badges and policy recommendations developed by the iNCLUSION project are first steps towards this transformation as they link competence development and recognition in the labour market to inclusive cultural engagement and inclusion.

The future of cultural heritage lies not only in making culture available to wider audiences, but in enabling diverse communities to participate actively in the creation of cultural meaning. Inclusive Storytelling Intelligence offers a framework for this transition by positioning accessibility not as a constraint, but as a driver of innovation, creativity, and social value.

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INVISIBLE ADVANTAGE: GIFTED LEARNERS IN INCLUSIVE EDUCATION

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INVISIBLE ADVANTAGE: GIFTED LEARNERS IN INCLUSIVE EDUCATION

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Abstract

Inclusive education represents a global paradigm shift toward creating high-quality, non-discriminatory systems that embrace the full spectrum of human diversity. Nevertheless, as the field navigates the evolving relationship between special and general education, the specific intersection of giftedness and inclusive practice remains significantly under-theorized and researched. Moreover, inclusive education often prioritizes learners with visible disabilities or difficulties, inadvertently overlooking a hidden cohort: Gifted and high-ability students who appear to be "doing fine." This chapter examines how traits typically perceived as advantages in learners with gifts and talents may paradoxically function as invisible disadvantages, as their apparent competence can mask underlying needs and lead to under-recognition within inclusive education contexts. Therefore, this chapter discusses some prevalent myths (e.g., "They'll be fine on their own"), the paradoxes of giftedness (high potential coupled with hidden vulnerabilities and asynchronous development), and the socio-emotional characteristics that may leave high-performing or well-behaved gifted students at risk of disengagement or underachievement. The chapter also addresses twice-exceptionality (2e), wherein giftedness coexists with disabilities, leading to challenges of identification and support. Educational responses are discussed, emphasizing that recognition of gifted learners is not about labeling but about meeting different needs through intentional instructional strategies, differentiation, and socio-emotional support. Recommendations are offered for educators, policymakers, and professionals to ensure that the ethos of inclusion embraces those with invisible advantages, maximizing growth for all learners.

Keywords

Giftedness, *Inclusive Education*, *Socio-Emotional Needs*, *Myths*, *Twice-Exceptionality*

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Inclusive education is commonly described as a systemic process aimed at increasing learners' presence, participation, and achievement, rather than a narrow placement decision (Ainscow, 2005; UNESCO, 2005). Similarly, international policy frameworks such as the United Nations Sustainable Development Goals conceptualize "quality education" as inherently inclusive and equitable (United Nations, 2015). Together, these positions establish a normative claim: Education systems should not merely admit diverse learners; they should enable all learners to realize their potential within environments where they belong and participate meaningfully.

Inclusive education aims to meet the needs of all learners in a common setting, often emphasizing students with disabilities or those experiencing academic difficulties; however, research indicates that gifted and high-ability students may be overlooked when their apparent competence masks unmet needs (Dai, 2018; Peters & Engerrand, 2016). These learners possess what may be described as an "invisible advantage": Advanced cognitive abilities or talents that, although evident in performance or assessment data (sometimes), do not always translate into visible educational needs within busy classroom environments (Garces-Bacsal, 2021; Olszewski-Kubilius & Thomson, 2015). Teachers and administrators frequently assume such students are "doing fine" and thus require little or no special attention (Lassila et al., 2023; Subotnik et al., 2011). "They'll be fine on their own" assumption is actually a myth that can lead to unintended neglect of gifted learners' educational and emotional needs (Peterson, 2009; Reis & Renzulli, 2009).

The concept of invisible advantage captures a paradox in which gifted students are viewed as inherently advantaged because of their high intellectual potential; however, this perceived advantage may function as a disadvantage when it masks unmet academic and socio-emotional needs, such as boredom, under-challenge, or distress (Preckel et al., 2010). Gifted students who are quiet, compliant, or achieving at grade level often receive minimal attention because they do not appear to need help (Kalobo & Setlalentoa, 2024; Reis & McCoach, 2000). Meanwhile, their growth may stagnate from lack of appropriate

challenge, and their socio-emotional sensitivities may go unrecognized. A key risk is the assumption that academic success necessarily reflects meaningful developmental growth, thereby overlooking broader dimensions of learning and personal development. (Kanevsky & Keighley, 2003). This chapter argues that truly inclusive education must ask not only "Who is struggling?" but also "Who is not growing?" (Florian & Black-Hawkins, 2011; Tomlinson, 2014). In other words, inclusion should encompass students who may be excelling yet not reaching their potential or facing hidden challenges. Indeed, Borland (2005) argues that giftedness may be better understood as a social construct than a fixed within-child trait, cautioning that categorical labeling can obscure the more important task of identifying and responding to individual learning needs.

The following sections examine myths and misconceptions about gifted learners that contribute to their invisibility in inclusive classrooms, followed by an overview of the unique social and emotional characteristics of gifted individuals (Elias et al., 2025; Foley-Nicpon et al., 2011; Peterson, 2009; Reis & Renzulli, 2009). The chapter outlines the consequences when gifted needs go unrecognized, including chronic boredom, underachievement, and mental health risks, drawing on research that gifted students are not uniformly "happy and well-adjusted" without appropriate support (Preckel et al., 2010). The phenomenon of twice-exceptionality (giftedness combined with disabilities or learning difficulties) is also examined as a special case of invisibility, where exceptional strengths and challenges can mask one another (Cheek et al., 2023).

Finally, the chapter extends the discussion of inclusion beyond the school. Recognizing that learning and identity formation also occur in out-of-school environments, this section connects our themes to the heritage sector, museums, cultural heritage sites, and public history programs. Inclusive heritage education practices (for example, multisensory exhibits or youth programs in museums) typically aim to accommodate disabilities and diverse cultural backgrounds. This section posits that these practices can also be attuned to intellectual diversity, offering gifted learners a meaningful engagement, cognitive challenge, and a sense of belonging. A holistic approach to inclusion across educational and heritage sectors can enrich gifted learners' experiences and support their development in both knowledge and identity.

1. **Common Myths Related to Giftedness**

Despite decades of research, several enduring myths still shape everyday classroom responses to gifted learners. A first step toward more inclusive practices for gifted learners is dispelling persistent myths that lead to their needs being overlooked. The following discussion includes several common myths about gifted students alongside realities grounded in research. These myths often reflect well-intentioned but inaccurate beliefs among educators and the public, which can perpetuate a lack of support for gifted children.

One of the most enduring assumptions is that gifted students do not require support because their high ability ensures success. Because many gifted students manage to meet grade-level expectations without assistance, teachers may adopt an "all is well" mindset, assuming "they don't need help; they will be fine on their own" (Baudson & Preckel, 2013; Peterson, 2009). In a

Turkish study examining the prevalence of popular views about giftedness and intelligence, Sak (2011) reported evidence for "omniscient" belief, which implies that gifted people are gifted in everything, and for related misconceptions such as "classless" and "syndromic" beliefs. These beliefs matter because, in classrooms, they can translate into the "omniscient person" assumption: The student can learn anything independently, therefore the teacher's responsibility shifts elsewhere. A fundamental ethical concern is that a student's right to continued learning and development does not diminish because they learn quickly (National Association for Gifted Children [NAGC], 2019; Razer et al., 2018; Sternberg, 2017) However, high potential does not automatically translate into optimal development. Gifted learners require guidance, mentorship, and appropriately challenging instruction to refine and extend their abilities. When educational environments fail to provide sufficient cognitive stimulation, boredom, disengagement, frustration, and even underachievement may follow. Thus, the teacher's role is not passive recognition of ability, but active cultivation of potential.

A second common misconception equates giftedness with consistently high academic performance. In practice, giftedness and achievement do not always align. Underachievement among gifted students represents a discrepancy between demonstrated ability and actual performance. A systematic review by Raoof et al. (2024) found that numerous internal and external factors, from motivation and personality to peer influences and school environment, contribute to why high-ability students may perform below their potential (Barber & Mueller, 2011). Gifted underachievers might be dismissed as "lazy" or "just not bright enough," when in fact they may be disengaged or facing unmet needs. This discrepancy may emerge due to curricular mismatch, motivational dynamics, peer conformity pressures, or the presence of an undiagnosed learning difficulty (Wang & Neihart, 2015). Consequently, low grades should not be interpreted as evidence against giftedness; rather, they warrant a closer examination of contextual, instructional, and socio-emotional variables influencing performance (Siegle & McCoach, 2018). Effective inclusion requires educators to look beyond surface indicators like report cards and ask whether each student is learning at a level commensurate with their capability.

Another pervasive belief assumes that gifted students are socially well-adjusted, popular, and emotionally stable by virtue of their cognitive strengths (Peterson, 2009). Research suggests a more nuanced reality. Many gifted learners experience heightened emotional intensity, increased sensitivity, perfectionistic tendencies, and complex moral reasoning that differentiate them from age peers (Colangelo et al., 2004; Davis et al., 2013; Silverman, 2013; Subotnik, 2011). Difficulties in locating intellectual equals or sharing interests with classmates can contribute to feelings of isolation or marginalization (Seničar & Gabrijelčič, 2025; Wellisch, 2021). Academic competence, therefore, does not immunize students against loneliness or socio-emotional vulnerability. Their needs extend beyond enrichment to include relational understanding and emotional support (Reis et al., 2021).

Finally, the assumption that giftedness and disability are mutually exclusive overlooks the phenomenon of twice-exceptionality (2e) (Kranz et al., 2024; Moon, 2009). Some students simultaneously demonstrate advanced cognitive abilities and one or more disabilities.

In such cases, abilities and challenges may mask one another. For example, strong cognitive skills can compensate for learning difficulties, while a disability can obscure high potential. As a result, these students may appear "average" and remain unidentified for both gifted and special education services (Cheek et al., 2023; King, 2022). Effective educational practice requires recognizing the coexistence of strength and vulnerability, and providing both challenge and targeted support accordingly.

Taken together, these myths reveal a broader pattern, as giftedness is frequently simplified in ways that obscure complexity. Educational systems must move beyond deficit-blind or strength-blind assumptions and adopt a differentiated perspective that acknowledges intellectual, motivational, and socio-emotional dimensions simultaneously.

2. **Social and Emotional Characteristics of Gifted Children**

To support gifted learners in an inclusive setting, it is essential to first acknowledge that they also have special needs and may face unique challenges (Hébert, 2021; Moon; 2009). Gifted students are often defined by their advanced cognitive abilities and rapid learning capacity, but these same assets can become liabilities in even an inclusive classroom. As mentioned in previous section that it is a misconception that giftedness is confined to academic traits; it also commonly includes differences in how a child feels, relates, and behaves. Research has long shown that gifted children tend to be more intense; cognitively, imaginatively, and emotionally; than their age peers (Wood et al., 2024). While not every gifted individual shows every trait, several characteristics appear frequently in the literature and align with the anecdotal observations of educators and parents (Klein, 2023; NAGC, 2017; Papadopoulos, 2021).

2.1. **Asynchronous Development**

As introduced earlier, gifted individuals often develop cognitively at a much faster rate than they do physically or emotionally (Tourreix et al., 2023). This asynchrony means a child could read at a middle-school level but struggle to write by hand (fine motor skills lagging), or grasp adult concepts yet have the emotional self-regulation typical of their age. Giftedness can be understood as asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences that are qualitatively different from the norm (Cross, 2011). The result can be hidden vulnerabilities: Areas where the child's maturity is uneven. For example, a gifted 7-year-old might intellectually understand death but not have the emotional coping strategies to handle that knowledge, leading to unexpected anxiety. Teachers encountering an intellectually gifted student might forget that, say, emotionally they are still 7. Recognizing asynchrony helps educators provide appropriate support (for emotional age) even while offering advanced content (for intellectual age).

2.2. **Emotional Sensitivity and Intensity**

Heightened emotional responses are common among gifted learners. Gifted children may show deep empathy; for example, distress at injustices or concern for others' feelings beyond what is typical for their age (Mendaglio & Tillier; 2006; Rinn, 2018; Rinn & Reynolds; 2012). They can also react strongly to criticism or failure. The intensity might manifest as exuber-

ant enthusiasm on one hand, or intense frustration and meltdowns on the other. These "big feelings" can be overwhelming; some research shows that gifted kids' feelings "are as intense as they are smart," often including pronounced anxiety, compassion, and perfectionism all at once (Guignard et al., 2012; Mofield & Peters, 2015). Such intensity requires thoughtful support; without validation and adaptive coping strategies, gifted children may be perceived as emotionally reactive or may suppress their feelings to appear more typical, further contributing to the invisibility of their struggles.

2.3. **High Expectations of Self and Others**

Students with gifts and talents often hold themselves to higher standards and can be perfectionistic from a young age (Mofield & Peters, 2015). They may also expect others (teachers, classmates) to operate at a similar level of efficiency or accuracy, which can lead to frustration or leadership tensions in group work. This drive for excellence can be positive but may also result in fear of failure or reluctance to attempt tasks where success isn't assured (Rocha et al., 2024; Wood & Laycraft, 2020). However, another academic challenge is that gifted learners may intentionally mask their full abilities. Some become adept at blending in because they might want to resist standing out as "smart" to avoid peer stigma, or they might simply comply with minimal requirements because nothing more is expected of them (Guignard et al., 2025; Moulton et al., 1998). These behaviors are easily misinterpreted. Without awareness, educators may fail to recognize that a quiet, well-behaved child could be languishing academically.

2.4. **Social Competence**

The social dimension of giftedness further complicates the picture. Research on the social competence of gifted students has historically been ambivalent, with some studies finding that gifted children have stronger social skills than age peers and others finding specific areas of social difficulty (Robinson, 2008). A study by Rocha et al. (2024) comparing socio-emotional competencies between high-ability students and typically-developing peers, found the relationship to be domain-specific and sensitive to contextual factors. Gifted students tended to exhibit positive peer relationships on structural measures but showed specific vulnerabilities in emotional regulation under conditions of academic frustration and social comparison. A systematic review by Marsili et al. (2025) suggests that although gifted students often report generally positive peer interactions, the quality of these relationships may not always reflect equivalent intellectual or emotional engagement. Thus, gifted learners may appear socially integrated while remaining insufficiently understood at a deeper cognitive or existential level. This distinction is theoretically important, as the literature differentiates between social loneliness, defined as the absence of social contact, and intellectual or existential loneliness, defined as the absence of peers capable of engaging with one's inner world, complexity of thought, or depth of concerns at a comparable level (Shechtman & Silektor, 2012; Unal & Sak, 2023). In this sense, what may be perceived as social adjustment can obscure underlying relational asymmetries. Gifted students may successfully avoid social isolation while simultaneously experiencing a less visible form of disconnection grounded in intellectual mismatch, highlighting how an apparent advantage can function as an invisible unmet need.

In summary, the social and emotional profile of gifted learners is integral to understanding why they could be "invisible" in inclusive classrooms. Their strengths (e.g., extensive knowledge, moral insight) might mask their struggles (e.g., anxiety, peer issues), and vice versa. Inclusive education for the gifted means recognizing this full profile. A quiet, high-achieving student might be internally wrestling with fear of failure or feeling isolated due to unshared interests. Recognizing characteristics like emotional intensity or asynchronous development can alert educators to provide interventions such as counseling, discussion groups for gifted kids, or simply a listening ear and validation. It moves us away from the simplistic view of gifted students as "smart kids who will be fine" to a more nuanced understanding that they are children with complex needs – some needs far beyond their years, others very much age-appropriate or even lagging. Scholars increasingly emphasize that giftedness should be understood within a framework of differentiated educational and psychological needs rather than through assumptions of automatic resilience or self-sufficiency. Contemporary models of gifted development increasingly frame high ability as a form of educational exceptionality, not as a deficit condition but as a developmental trajectory that diverges from normative learning patterns and therefore requires intentional environmental alignment and responsive educational supports (Dai, 2018; Marsili et al., 2025; Subotnik et al., 2011). Moreover, a growing body of research suggests that when educational environments fail to align with these developmental characteristics, gifted students may experience disengagement, underachievement, or socio-emotional strain despite high potential (Cross, 2011; Silverman, 2013). Within this perspective, gifted learners may be understood as having specific educational needs, grounded in their advanced cognitive development, socio-emotional intensity, and readiness for increased complexity and challenge. Such needs do not imply pathology; rather, they reflect the principle that inclusive education must address a wide range of learner diversity, including those whose learning progresses beyond age-based expectations. Advanced ability can paradoxically contribute to educational invisibility, as apparent competence may obscure unmet developmental needs. Positioning giftedness within a needs-based framework in inclusive educational settings therefore highlights the importance of proactive and differentiated support structures that foster optimal development rather than assuming that high ability alone ensures positive educational outcomes.

3. **Twice Exceptional (2e) Learners**

The invisible advantage becomes particularly complex in twice-exceptional profiles when high ability coexists with significant learning or developmental challenges. Therefore, twice exceptional (2e) students deserve particular attention because their strengths and difficulties coexist within the same learner. Twice-exceptional refers to individuals who are both gifted (high potential or ability) and have one or more disabilities or learning disorders (such as ADHD, autism spectrum disorder, dyslexia) (Duyar et al., 2023; Reis et al., 2014). These students exemplify the theme of invisibility because their exceptional strengths and weaknesses can camouflage each other. Traditional school systems, which often categorize "gifted" and "special education," struggle to accommodate the dual nature of 2e learners, leading to frequent under-identification and inadequate support (Abraham, 2025).

There are generally three categories of twice-exceptional identification scenarios as followed:

3.1. **Giftedness Masks Disability**

The student is identified as gifted (often early, through tests or achievement) and is placed in advanced classes, but over time they may show academic difficulties or behavioral issues that seem inconsistent with their gifted profile (Jolly & Barnard-Brak, 2024). Often these students are labeled "underachievers" without recognizing an underlying disability (Dlugosz, 2022). Their intelligence enables them to compensate to some extent, keeping them at grade level for a while, but as workload increases (for example, reading volume for a dyslexic student, or organizational demands for a student with ADHD), they begin to falter (Baum et al., 2017; Byrd et al., 2025). Educators may misinterpret emerging difficulties as lack of effort, which can delay appropriate evaluation until problems become more pronounced. In many cases, advanced ability masks underlying disabilities for years, highlighting the need for inclusive practice to remain attentive to significant discrepancies between strengths and performance as indicators for further assessment rather than assumptions about motivation (Gilman et al., 2013; Villanueva & Huber, 2019).

3.2. **Disability Masks Giftedness (Identified with a Disability, Not Identified Gifted)**

In this scenario, the student enters school identified with a disability – perhaps an autism diagnosis or a speech/language delay – and receives remedial or special education services. Their disability might cause educators to set lowered expectations, and as a result their areas of gifted potential are not actively looked for (Jolly & Barnard-Brak, 2024). For example, a child with Asperger's (autistic spectrum) might fixate on an advanced science topic and have an extraordinary memory, yet due to social and communication challenges, teachers focus only on student's deficits. Standard IQ or achievement tests might underestimate student's ability (especially if timed or language-loaded). Consequently, the student is not identified for the gifted program which means that the disability overshadows the talent. This is a loss both for the student and the school, as a "hidden genius" in a particular domain might remain untapped. Inclusive approaches recommend using multiple criteria for recognizing giftedness (such as observations of problem-solving or creativity, domain-specific talent searches, etc.), especially in populations where traditional metrics are unreliable (McCallum et al., 2013; Reis et al., 2014). They also urge educators to see beyond a disability label and seek out strengths; as Baum et al. (2017) notes, teachers should focus "not only on what 2e students cannot do, but on what they can do."

3.3. **Mutual Masking (Neither Identified)**

Perhaps the most pernicious case is when the student's giftedness and disability are of such balancing impact that they appear average in performance and thus raise no flags for either gifted or special services (Maddocks, 2019). These children often sit in general classrooms, possibly struggling quietly or compensating in one area for weaknesses in another. For instance, a dyslexic but highly intellectual student might use their excellent memory and context skills to read at grade level, hiding the reading disorder until later grades; meanwhile, their insights in

discussion might be written off as just verbal proficiency. Since they get by (perhaps with mild behavior issues or daydreaming), they remain unidentified. Educators might describe them as "inconsistently performing" or "not living up to potential," but without the framework to see that potential. This mutual masking is a significant challenge – one study suggests this could be the largest group of unserved 2e students (Cannaday, 2017; Saldana et al., 2021). The key to uncovering them is professional development: Teachers trained to recognize atypical expressions of giftedness and also to notice subtle indicators of learning difficulties. For example, a student whose class comments are brilliant but whose homework is messy and incomplete may need evaluation for an attention or executive function disorder and enrichment for their high ability. An inclusive mindset is to question apparent "average" performance when there are hints of something more – asking both "Is there an undiagnosed challenge?" and "Is there an unacknowledged talent?"

While identifying different forms of twice-exceptionality provides an important structural framework, it is the lived experience of navigating simultaneous strength and challenge that reveals the less visible dimensions of giftedness. The coexistence of advanced cognitive abilities and areas of difficulty often generates a distinctive psychological tension that remains largely unrecognized within traditional educational narratives. Twice-exceptional (2e) learners frequently experience elevated levels of stress arising from the internal discrepancy between intellectual strengths and functional challenges. This duality may produce an acute awareness of advanced cognitive capacity alongside repeated experiences of struggle in domains that peers navigate more easily, thereby increasing vulnerability in self-concept and self-esteem (Baum et al., 2017; Foley-Nicpon et al., 2011).. Research suggests that such developmental asynchrony can give rise to frustration, confusion, and identity tension, particularly when educational environments fail to acknowledge or adequately support the integrated nature of these profiles (Reis et al., 2014).

Consequently, many 2e students demonstrate shifting self-perceptions, alternating between experiences of intellectual competence and perceived inadequacy, which may contribute to feelings of isolation and internal conflict. Empirical literature reports elevated levels of frustration, withdrawal, and externalizing behaviors among unidentified 2e learners whose efforts appear persistently misaligned with their internal expectations (Maddocks, 2019; Reis et al., 2014). Supportive interventions such as counseling or peer-based support structures can provide essential spaces for meaning-making and emotional expression. Educational settings that effectively support 2e students often integrate explicit self-advocacy training, helping learners articulate their dual profiles ("I'm strong in X; I need support in Y"), request appropriate accommodations, and strategically leverage strengths to compensate for areas of difficulty (Hill, 2025). Ultimately, twice-exceptional learners underscore that inclusive education must move beyond binary categorizations and instead respond to diverse and complex learning profiles through intentional and coordinated support. To avoid missing them, educators and policy-makers should implement identification processes that are sensitive to atypical profiles, ensure coordinated support plans, and cultivate an inclusive school culture that values neurodiversity.

4. **Consequences of Unmet Gifted Needs in Inclusive Education**

Inclusive education seeks to address diverse learning needs; however, when gifted learners' socio-emotional characteristics and developmental profiles are misunderstood, inclusion may unintentionally reproduce exclusion (Marsili et al., 2025). High ability/giftedness is often equated with resilience and self-sufficiency, reinforcing myths that gifted students "will be fine on their own." Yet research demonstrates that unmet needs, particularly in environments lacking differentiation, can lead to boredom, disengagement, underachievement, perfectionism, and internalized distress (Cross, 2011; Reis & McCoach, 2000). These consequences are particularly concerning because they often occur beneath the surface of apparent academic success, masking underlying vulnerabilities. One of the most immediate consequences of insufficient challenge is chronic boredom. Gifted students may maintain strong academic performance while experiencing stagnation in intellectual growth or increasing psychological strain. Without appropriate challenge, chronic boredom can evolve into habitual disengagement characterized by reduced effort, passive participation, or seeking intellectual stimulation outside assigned tasks (Kanevsky & Keighley, 2003). Importantly, disengagement does not always coincide with declining grades. Many gifted students continue to achieve high academic outcomes despite reduced investment in learning, reinforcing the misconception that their needs are adequately met. However, the distinction between academic performance and developmental growth becomes critical: Students may achieve high marks while experiencing stagnation in intellectual development, creativity, or persistence (Subotnik et al., 2011).

This can turn to be an unpredicted underachievement. Underachievement among gifted learners often manifests subtly rather than dramatically. Instead of overt academic failure, students may limit effort to the minimum required to meet expectations, selectively engage in preferred subjects, or gradually lose enthusiasm for learning (McCoach et al., 2020; Reis & McCoach, 2000). Such patterns may go unnoticed because performance remains within acceptable ranges. Multiple factors contribute to underachievement, including curricular mismatch, lack of intellectual stimulation, socio-emotional pressures, and efforts to conform socially (Rimm, 2008; Snyder & Wormington, 2020). Over time, this disengagement can erode intrinsic motivation and lead to a significant gap between potential and realized achievement. When unaddressed, underachievement represents not only a personal developmental loss but also a broader societal loss of talent.

While some gifted learners disengage, others maintain high levels of achievement but at considerable psychological cost. When students are consistently praised for being "smart" without encountering meaningful challenge, they may develop fixed identity structures centered on effortless success. This dynamic can foster perfectionism, fear of failure, and avoidance of risk-taking (Dweck, 2006; Neihart, 2016).

Gifted students who have rarely struggled academically may interpret difficulty as evidence of inadequacy rather than as a natural component of learning. As a result, they may avoid challenging tasks, resist competition, or experience anxiety when confronted with failure. Research also highlights the presence of impostor-like experiences among gifted individuals, particularly when internal expectations exceed perceived performance (Clance & Imes, 1978). Because high-achieving students continue to perform well academically, these internal struggles frequently remain unnoticed within educational environments.

As discussed above gifted learners may experience unique socio-emotional challenges that are easily overlooked. Emotional intensity, existential questioning, heightened sensitivity, and asynchronous development can contribute to feelings of isolation or misunderstanding (Silverman, 2013). Unlike students who externalize distress through disruptive behaviors, many gifted students internalize emotional difficulties, presenting as compliant, quiet, or self-sufficient. Research suggests that gifted youth may experience anxiety, depressive symptoms, or reduced perceived quality of life in certain domains despite academic success (Cross, 2011). Teachers may misinterpret independence or introversion as adjustment, overlooking underlying loneliness or unmet relational needs. Without recognition and support, internalized distress may escalate, emphasizing the importance of proactive socio-emotional monitoring alongside academic differentiation. These risks may be amplified for twice-exceptional students or gifted learners from marginalized backgrounds, whose experiences of difference intersect with broader systemic challenges.

When myths about gifted self-sufficiency intersect with limited awareness of their socio-emotional profiles, such as heightened sensitivity, asynchronous development, or existential intensity (Silverman, 2013), educational environments may fail to respond proactively. In such contexts, invisibility itself becomes a developmental risk factor (Cross, 2011). Thus, inclusive education that does not recognize gifted learners' specific developmental needs risks narrowing its own equity mandate by addressing only visible forms of vulnerability. Scholars have described this phenomenon as covert exclusion, wherein educational structures appear inclusive but fail to accommodate diverse developmental profiles (Dai & Chen, 2013).

5. **Strategies for Including and Challenging Gifted Students**

An inclusive approach that truly serves gifted learners involves deliberate educational and organizational strategies. Teachers and schools should shift from the mindset of "they'll be fine" to one of intentional challenge and support for high-ability students (Subotnik et al., 2011). This does not necessarily require separate programs or drastically different curricula; often, small shifts can make a big difference. Key strategies include differentiating instruction within the regular classroom, providing enrichment and acceleration opportunities, addressing socio-emotional development, and fostering a school-wide culture that values academic diversity. Importantly, teachers need preparation and resources to implement these strategies effectively.

Differentiated instruction is perhaps the cornerstone of including gifted students. Research on differentiated instruction highlights the need for teachers to adjust content, process, and product according to students' readiness levels and interests (Tomlinson, 2014; Tomlinson & Moon, 2013). For gifted learners, differentiation might mean providing more advanced content than the grade-level norm, pursuing topics in greater depth, or engaging in higher-order thinking activities instead of rote work. For example, rather than giving a bored gifted student more of the same problems once they finish an assignment early, a teacher can give a complex extension task that requires creative application of the concept. In practice, this could look like open-ended projects, independent research inquiries, problem-based learning, or cross-curricular integration that allows a student to explore a subject beyond the standard syllabus (Swan et al., 2013). The goal is qualitative enrichment of learning, not merely quantitative. Recent research shows that curriculum compacting and differentiated instruction can increase engagement and academic growth among gifted learners while allowing them to remain within heterogeneous classroom settings (Subotnik et al., 2011; Tomlinson, 2014).

Acceleration is another tool, used carefully. Acceleration can take many forms: Subject-specific acceleration (advancing a student to higher-level content in one subject), grade-skipping, early entrance to school or college, or compacting material so that the student moves through the curriculum faster. Decades of research have found that academic acceleration, when matched to a student's ability and maturity, yields strong positive outcomes for gifted learners and minimal negative effects on social adjustment (Siegle et al., 2013; Steenbergen-Hu et al., 2016). Inclusive schools can permit these flexibilities as part of an individualized approach. Acceleration ensures that gifted students are learning new material instead of sitting through content they've already mastered. It should be noted that concerns about social harm from acceleration have been largely debunked; many accelerated students thrive socially with intellectual peers who share their interests (Steenbergen- Hu et al., 2016).

Cluster grouping represents a practical classroom strategy in which a small number of high-ability students are intentionally placed together rather than dispersed across multiple classrooms. This approach facilitates differentiated instruction without isolating gifted learners and provides regular opportunities for intellectual peer interaction. Research suggests that cluster grouping and related differentiation practices can enhance achievement and engagement without negative effects on other students, particularly when implemented with appropriate teacher preparation (Steenbergen-Hu et al., 2016). Within inclusive schooling, such strategies help balance heterogeneous classroom structures with targeted academic challenge.

Equally important is strengthening teachers' capacity to recognize and respond to gifted learners. Many general education teachers report limited preparation for working with academically advanced students, contributing to persistent under-challenge and disengagement (NAGC, 2019). Contemporary equity-focused scholarship further emphasizes that excellence gaps persist when high-ability learners are not intentionally supported (Peters et al., 2021). Professional development that addresses differentiation, myth reduction, and awareness of diverse gifted profiles, including twice-exceptionality, is therefore essential.

Inclusive education also requires attention to social and emotional development. Belonging, participation, and psychological safety are central to inclusion, and gifted learners benefit from environments that normalize challenge and growth while valuing diverse talents. For twice-exceptional (2e) students, inclusive strategies must be dual-focused, integrating accommodations with talent development. Research underscores the importance of coordinated support systems that simultaneously address disability-related needs and advanced learning potential (Gierczyk & Hornby, 2021). When cognitive diversity is intentionally recognized, inclusive education moves beyond remediation toward comprehensive developmental responsiveness.

6. **Out-of-School Enrichment and Cultural Resources**

While inclusive education primarily focuses on classroom practices, learning opportunities beyond school settings can significantly enhance the development of gifted learners. Community and cultural environments, such as museums, science centers, libraries, and heritage institutions, provide authentic contexts where advanced interests can be explored through inquiry-based and experiential learning. These opportunities do not replace appropriate classroom differentiation but serve as complementary enrichment, particularly for students whose intellectual curiosity extends beyond standard curricular boundaries.

Within contemporary gifted education frameworks, partnerships between schools and community institutions are often conceptualized as enrichment-oriented or talent development approaches that extend learning across contexts (Reis & Renzulli, 2023; Subotnik et al., 2011). Museums, in particular, offer interdisciplinary environments that support deep exploration, collaboration, and engagement with real-world problems. Such contexts align with strengths-based models emphasizing the recognition of emerging potential and the provision of enriched environments that allow high-level interests to develop (Dai, 2018; Olszewski-Kubilius & Thomson, 2015). From an inclusive education perspective, community-based enrichment can also broaden access to advanced learning by reducing reliance on formal identification procedures alone. This approach supports participation from students who may be underidentified or underserved within traditional school systems, thereby addressing issues of invisibility among among gifted learners (Peters et al., 2021). Research indicates that out-of-school enrichment programs can contribute to both talent identification and talent development, particularly when they integrate authentic audiences, project-based work, and collaborative learning experiences.

Heritage-based learning environments are particularly well-suited to the developmental profile of gifted learners. Museums, archaeological sites, and cultural heritage institutions offer open-ended, inquiry-driven encounters that reward depth over pace, allowing high-ability students to pursue complexity without the ceiling imposed by grade-level pacing. Inclusive heritage education has traditionally been framed around physical and sensory accessibility or cultural representation; however, the same multisensory and interpretive practices that accommodate disability can also be attuned to intellectual diversity. Open-

ended interpretation, primary-source analysis, and self-directed exploration provide gifted learners with the cognitive challenge, authentic audience, and sense of belonging that classroom settings may not consistently afford (Olszewski-Kubilius & Thomson, 2015; Reis & Renzulli, 2023). In this sense, the heritage sector represents not merely a supplementary enrichment venue but a partner site of inclusion in which giftedness is recognized as one more dimension of learner diversity.

While schools must take the lead in challenging gifted learners, out-of-school opportunities play a supportive role. They provide alternative avenues for exploration, help in identifying hidden talents especially among underserved students, and contribute to the holistic development of gifted individuals. By collaborating with museums and other cultural institutions, inclusive education for gifted learners becomes not just a school-based endeavor but a community-wide commitment to nurturing excellence in all its diverse forms. Beyond academic development, heritage-based contexts also support social and emotional growth. Interaction with intellectual peers and mentors fosters identity development, communication skills, and a sense of belonging. Importantly, leveraging community resources does not require extensive gifted infrastructure; inclusive education frameworks conceptualize learning as a shared responsibility between schools and community stakeholders. By integrating classroom differentiation with community-based enrichment, inclusive education can promote both equity and excellence, demonstrating that gifted education and inclusive education are mutually reinforcing rather than competing paradigms.

7. Conclusion

Gifted learners, often overlooked members of inclusive classrooms, demonstrate why inclusion must be about each and every child's growth. The evidence and discussions presented in this chapter make clear that overlooking gifted students is a lose-lose proposition: The students lose opportunities to develop their abilities and interests to the fullest, and society loses the contributions those abilities could yield. Inclusive education, at its core, is about equity – and equity entails meeting students where they are, whether they are far behind or far ahead. Schools do not have to choose between helping struggling students or supporting gifted ones; a truly inclusive approach can and should do both (Marsili et al., 2025). The same philosophy that drives us to provide classroom accommodations for a student with a disability should drive us to provide an accelerated math class for a child who learns at lightning speed, or emotional support for a child who feels isolated by their own gifted mind. Each of these interventions serves the same purpose which is enabling every child to belong, participate, and grow.

Implementing the ideas from this chapter requires conscious effort and sometimes a shift in mindset. Educators must challenge long-standing myths – for instance, rejecting the notion that gifted kids "have it made" and instead recognizing that without appropriate challenges they are actually at risk (Peters et al., 2021). Teacher education and professional development programs should integrate content about gifted and high-potential learners so that new teach-

ers enter the classroom prepared to differentiate on the upside as well as the downside. School leaders and policymakers should ensure that inclusion policies explicitly mention high-ability learners as part of the diversity to be served, as this legitimizes efforts and allocates resources for their support. Monitoring systems can be put in place in which schools track the progress of students who are below benchmarks, they can track whether top students are making yearly academic growth or whether they plateau due to lack of challenge.

From a classroom perspective, teachers should regularly ask themselves not only "Who needs extra help to succeed?" but also "Who needs extra challenge or depth to remain engaged?" and "to reach their real potential." An inclusive lesson plan might have extension options built in for any student who is ready to go further. Encouraging a classroom culture that prizes creative and intellectual risks can benefit everyone: Struggling students gain courage to try, and advanced students learn that effort is more valuable than easy success. The hallmark of an inclusive classroom is that every student feels seen and supported as an individual. For a gifted student, that might mean the teacher acknowledges their advanced understanding and gives them space to pursue a passion project; for a twice-exceptional student, it might mean classmates understand that one can be smart and have a learning difficulty at the same time, reducing stigma and fostering peer support.

Finally, research suggests that when schools implement differentiation, flexible grouping, and enrichment-based models, outcomes improve not only in academic performance but also in student well-being and school engagement (Renzulli & Reis, 2021). These findings reinforce the broader argument advanced in this chapter: The "invisible advantage" of gifted learners becomes developmentally meaningful only when recognized and intentionally supported within inclusive education frameworks. When educators view giftedness not as automatic advantage but as one dimension of learner diversity requiring responsive environments, inclusion more fully realizes its ethical and developmental commitments (OECD, 2021).

Extending this commitment beyond the school, cultural heritage and museum contexts emerge as natural allies in making the invisible advantage visible, offering gifted learners environments where intellectual depth, authentic inquiry, and belonging converge.

The "invisible advantage" of gifted learners reflects a central paradox of inclusive education which is strengths seen as high ability may simultaneously hinder needs. When apparent competence masks developmental mismatch, invisibility becomes a structural risk rather than an individual trait. Inclusive education fulfills its promise only when it recognizes that different does not mean lesser, and that high ability, like any form of exceptionality, requires responsive support. By intentionally addressing the needs of gifted learners, educators affirm cognitive diversity as an essential dimension of human variation. In considering future directions, inclusive education must continue to engage with a critical question: Who else among our students might remain invisibly disadvantaged because of our assumptions? Asking this question and acting on it enables schools, teachers, and education systems to view giftedness not as an automatic advantage or a problem to be managed, but as one dimension of human diversity that inclusive education seeks to nurture and develop.

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LOOK BY HAND, SEE BY HEART IMPLEMENTATION OF THE ERASMUS+ TOMIMEUS PROJECT AT THE HUNGARIAN HERITAGE HOUSE

Boglárka GÁL

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Hungarian Heritage House

Abstract

This practice-based case study examines the implementation, outcomes, and institutional impact of the Erasmus+ ToMiMEUs project at the Hungarian Heritage House – Museum of Hungarian Applied Folk Art. The study examines the development of a multisensory exhibition and inclusive museum education activities aimed at improving accessibility for visitors with sensory disabilities. The analysis is based on project documentation, exhibition development records, museum education programmes, participant feedback questionnaires, and reflective evaluations prepared during the project. The Erasmus+ ToMiMEUs project, coordinated by the Transylvanian Museum of Ethnography and implemented between 2019 and 2022, aimed to support the development of a multisensory and inclusive museum for people with sensory disabilities. The international project was carried out in collaboration with partner institutions, museums, and universities from Romania, Greece, Türkiye, Bosnia and Herzegovina, and Hungary. Within the framework of the programme, the Hungarian Heritage House provided expertise and facilitated creative activities in a museum environment through museum education sessions involving mixed groups of children with and without sensory disabilities. In Hungary, museums preserve cultural assets that form part of both national and universal heritage, and ensuring equal access to these assets is a societal responsibility. This role also implies that museums must be accessible to people with disabilities. The aim of museum education methods is to present the research, collection, and exhibition activities of museums in an experiential way. Through informal learning, children can encounter objects, touch them, and try them out. A modern trend in museums is the inclusion of interactive elements in exhibitions. Accordingly, unique objects and interactive games were developed within the project by contemporary folk craftsmen to create a hands-on learning experience. Designing multisensory games and tools required consideration of numerous new needs, expectations, and areas of expertise. Achieving inclusive goals required a new approach. Among the first steps toward accessibility, a tactile, multisensory exhibition was created in the Hungarian Heritage House and a series of collaborative museum education programmes and sessions were organised. The underlying premise was that inclusive, activity-based museum education sessions play a significant role in shaping attitudes by increasing participants' awareness of disabilities and diversity. Sessions organised for mixed groups of students from different schools helped reduce children's anxieties. Different sensory impairments draw attention to the need to approach others and the environment differently, while also highlighting that the museum is an excellent venue for inclusive education. The project also contributed to long-term development of accessibility practices and inclusive museum education at the institution. The project demonstrates how multisensory exhibitions and inclusive museum education sessions can contribute to improving accessibility and supporting inclusive learning environments in museums.

Keywords

Inclusive Museum, *Multisensory Exhibition*, *Museum Education*, *Museum Accessibility*, *Sensory Disabilities*, *Inclusive Learning*, *Interactive Developments*, *Erasmus+ Project*, *Institutional Case Study*

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In recent decades, there has been growing global attention on making sure that people with disabilities can take part in cultural life without barriers and have access to both national and global cultural heritage. For cultural institutions, this is now an important task, and accessibility and inclusion have become key principles in their strategies.

This practice-based institutional case study focuses on the implementation and impact of an international Erasmus+ project in Hungary.

The Hungarian Heritage House – Museum of Hungarian Applied Folk Art (Budapest, Hungary) participated as a partner institution in the Erasmus+ project Towards a Multisensory and Inclusive Museum for Individuals with Sensory Disabilities (ToMiMEUs) between 2019 and 2022, upon the invitation of the Transylvanian Museum of Ethnography (Romania). The main goal of the programme was to work together with international partners (from Romania, Greece, Türkiye, Bosnia and Herzegovina, and Hungary) to develop a museum practice that meets the expectations of the 21st century by being multisensory and inclusive. Each country contributed one museum and one university, supported by a Museum Network, so that the practical work of museum staff was mentored by university experts through training and advising. "It is important to underline the innovative and interdisciplinary character of ToMiMEUs project which aims to enhance the skills and knowledge of the museum staff regarding two different categories of individuals with sensory disabilities (i.e. vision impairment (VI) and deaf or hard-of hearing individuals (DHH) and develop multisensory and inclusive practices for individuals and groups with sensory disabilities as well as groups with individuals with and without disabilities" (Hatházi & Sălăgean, 2022). This study reflects on the developments and impact of the international project at the Hungarian Heritage House, highlighting the creation of a multisensory exhibition and inclusive museum education activities aimed at improving accessibility for visitors with sensory disabilities.

In addition to outlining the international objectives, the study emphasises the specific goals of the Hungarian Heritage House – Museum of Hungarian Applied Folk Art, since the museum had shown significant delays in terms of accessibility. Through the project, the institution aimed to share knowledge and facilitate creative activities within a museum environment through museum education sessions for mixed groups of children with and without sensory disabilities.

To be able to welcome groups for the project, the first step was to create a space suitable for museum education sessions that could be safe and comfortable for children. To achieve this goal, a new approach was required and a tactile, multisensory exhibition was therefore planned. In the long term, this also helps to overcome traditional museum constraints, such as the rule "Everything for the eyes, nothing for the hands." In parallel with the project, an exhibition entitled *Scents, Flavours, Shapes – Look by Hand, See by Heart* was established, featuring unique multisensory objects and games created by contemporary applied folk artists. In designing these interactive games, a wide range of new needs, expectations, and specialized knowledge had to be taken into account (Bartos, 2009). Through this educational exhibition, the museum was also able to share the equality-focused perspective developed during the project. A modern trend in museums is the inclusion of interactive elements in exhibitions, allowing visitors to encounter, touch, and engage directly with objects during informal learning experiences (Koltai, 2010).

At the Hungarian Heritage House – Museum of Hungarian Applied Folk Art, these efforts are considered an ongoing responsibility and are incorporated into the institution's long-term strategy. Furthermore, in line with the museum's societal role, it must be made fully accessible to people with disabilities (Prónay, 2017), and the institution is committed to supporting this responsibility in all its activities.

The Erasmus+ ToMiMEUs project enabled the institution to make significant progress in promoting equal opportunities within the museum and to assume a more active role than ever before.

1. **Methodology**

This study applies a practice-based institutional case study approach to examine the implementation and outcomes of the Erasmus+ ToMiMEUs project at the Hungarian Heritage House – Museum of Hungarian Applied Folk Art. The analysis draws on a range of project-related materials, including exhibition development records, museum education session reports, and participant feedback collected during the project. The study focuses on the design of the multisensory exhibition, the implementation of inclusive museum education sessions, and their perceived impact on participants and the institution.

Between November 2021 and April 2022, the project involved participants from three schools in Budapest. The museum hosted four sessions for each of the two mixed groups of ten- to twelve-year-old students: One group with five students with visual impairments and five sighted students, and another group with five students with hearing impairments and five

hearing peers. Project outcomes were evaluated through participant feedback, teacher questionnaires, and reflective observations collected during the implementation of the museum education sessions. The findings presented in the following sections are based on the analysis of these feedback materials and project intellectual outputs.

2. **Inclusive and Multisensory Exhibition**

2.1. **The Need for a Multisensory and Inclusive Exhibition**

As we entered the 21st century, ensuring that people with disabilities can access culture without barriers, including museums, archaeological sites, and landmarks, has become increasingly important worldwide. Across Europe and in Hungary, new guidelines and initiatives have brought significant progress in the cultural sector, especially in the areas of inclusion, equal opportunities, and accessibility.

Museums are increasingly rethinking their institutional identity in response to changing circumstances, social expectations, and networks of relationships, an approach that is now a key part of their strategic planning. A milestone in this paradigm shift was the adoption of the new museum definition[1] by the International Council of Museums (ICOM) in Prague in 2022. From the perspective of this study, it is especially important to note that this modern definition, shaped by professional expertise as well as societal changes and expectations, incorporates the principles of accessibility and inclusivity alongside the long-established idea of being "open to the public."

In examining international trends, it is worth noting that the redefinition of the museum concept and the adoption of this new definition between 2019 and 2022 took place in parallel with the implementation of the Erasmus+ ToMiMEUs project. As a result, the Hungarian Heritage House had the opportunity to respond almost immediately to these newly articulated professional and societal expectations, and within this framework, to take its first practical steps toward their implementation.

By promoting equal opportunities, museums can enable people with disabilities to enjoy meaningful and memorable museum experiences. As institutions strive to meet the criteria of physical accessibility, exhibition spaces open to all visitors, as well as curatorial concepts, are being redesigned. This also encourages innovative and multisensory approaches that engage all senses in the communication of cultural knowledge and information in museums.

Instead of segregated, closed display cases, an increasing number of exhibitions worldwide now aim to present objects in a multisensory manner. Visitors now often encounter replicas, interactive games, audio-visual tools, and installations alongside original artefacts.

[1] Museum Definition by ICOM 2022: "A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing."

As Koltai (2010, p. 107) observes, "Facilitating active learning and integrating tactile objects and interactive tools into exhibitions has become a common practice today." Museums now place strong emphasis on being visitor-, family-, and school-friendly, which makes the creation of interactive learning spaces a key element in exhibition design. The museum, as a space for informal learning, offers opportunities for experiential learning, where visitors can directly encounter, touch, and engage with hands-on objects. In such experience-based learning environments, designed for all ages, both social interaction and curiosity-driven exploration play an equally important role. The Museum of Hungarian Applied Folk Art sought to contribute to this transformative process through the development of a multisensory and inclusive exhibition.

Experience-based cultural consumption, leisure activities, and consumer habits around the world all influence the operation of museums, including exhibitions, which are an important place for non-formal learning. Among the reform pedagogical approaches, the principles and methods of experience-based learning have been integrated into museum education. During the effective teaching and learning process within an exhibition, children acquire knowledge and information through direct experiences and active participation. Objects, artefacts, and demonstration tools convey this knowledge, making it essential that children construct their own understanding based on their personal experiences.

As Frazon (2011, p. 160) notes, "new topics bring new objects, new questions, and new answers" into the museum, thereby transforming the learning environment. Furthermore, "the exhibition space can thus become a laboratory in which the results of experiments can be displayed. An exhibition is therefore not only composed of images, objects, and texts, but also of the space where these elements are brought together" (Frazon, 2011, p. 181).

The primary educational tool of museums is the artefacts themselves, presented within exhibition spaces as part of museum collections. As Csesznák (2009, p. 7) observes, "The objects accumulated in museums offer an exceptional means of illustrating and supplementing school curricula." Beyond their display, learning through objects provides effective, experience-based knowledge acquisition, particularly for primary school-aged children. By observing objects and "reading their messages," students can develop a variety of skills. They are encouraged to preserve, observe, solve problems, compare, reflect, and form opinions (Csesznák, 2009).

As Baloghné Pinczés (2020, p. 131) points out, "The methodological basis of museum education is learning through objects." On one hand, this serves as a method of illustration; on the other, it forms the foundation for experiential learning. In addition to objects, museum education often uses games, demonstration objects, digital tools, worksheets, and activity booklets to facilitate interactive learning.

Taking into account both these museum education principles and the needs of visitors with sensory disabilities, we set out to design an exhibition to convey folk traditions and traditional crafts, which could simultaneously serve as a museum education activity space throughout the project.

In order to implement the planned museum education activities within the project, it became clear that a new exhibition needed to be developed. Thus, the project gave rise to a new, conceptually innovative exhibition created by the Hungarian Heritage House. The resulting space integrates the features of an exhibition, an interactive museum presentation, and an educational activity area.

The following sections present how these principles were translated into practice through the design of the *Scents, Flavours, Shapes – Look by Hand, See by Heart* exhibition and its multisensory learning tools.

2.2. Exhibition Design and Accessibility Framework

The exhibition was titled *Scents, Flavours, Shapes – Look by Hand, See by Heart*. One of the key considerations in selecting this title was to reflect the multisensory perspective from the outset; therefore, we chose three concepts associated with different senses. Our intention was to find a title that clearly conveyed that the exhibition includes objects and games that can be touched, handled, and tried out. At the same time, we wished the title to signal the museum's inclusivity: Here, objects are not only to be looked at, but also to be "seen" in a different way, with the heart, alongside a deeper recognition of one another and of fellow visitors.

In the exhibition scenario prepared by Boglárka Gál (2021), we adopted a practice-based design approach that focused on three dimensions of accessibility: Physical, informational, and digital accessibility. Based on these aspects, we present here the accessible elements of the exhibition.

Physical accessibility: In the ToMiMEUs project, our main target groups were children with hearing or visual impairments. For them, we focused primarily on creating strong contrasts in the space, ensuring good acoustics, and providing proper lighting. Objects in the exhibition were illuminated using directional LED lamps. Textile-printed texts and large-scale photographs were mounted on the walls, which both reduce echo and contribute to a comfortable acoustic environment. The shelves and installation elements were designed in black and white, creating strong contrasts so that the colourful objects, tools, and games placed on them are easier to recognize for visitors with impairments. Fluorescent, light-coloured, textured guidance strips were placed on the stone floor to assist visitors with low vision or blindness in navigating the space, orienting themselves, perceiving the layout, and identifying where to stop in front of display units. This also ensures that visitors remain at a safe distance, within arm's reach of the exhibited objects. The institution is equipped with induction loops, allowing children and adult visitors using hearing aids to fully participate in guided tours and educational sessions.

Informational Accessibility: Pictograms were placed on shelves and installation elements to indicate interactive items, demonstration objects, and games that can be touched or tried out, while other items, such as museum artefacts, were clearly marked as non-touchable. This system of signage provides easily interpretable guidance for visitors

with low vision, sighted visitors, and those with limited literacy skills. For written texts, we used larger font sizes and simple, readable typefaces, based on expert advice, to support visitors with low vision. Instructions for the games were written in short, simple sentences. Narrated videos demonstrating how to use the interactive games were also produced and subtitled for deaf and hard-of-hearing visitors.

Although our project goal primarily targeted children with low vision and hearing impairments, the exhibition was designed to be accessible to blind visitors as well. For these visitors, information is provided in Braille; however, we recommend the presence of a sighted companion, as the lack of tactile guiding paths in the room makes independent navigation challenging. In addition to written texts, we included images to support understanding, and we shared extra content on two touchscreens.

Digital Accessibility: According to EU regulations, public institutions in Hungary, including museums and the Hungarian Heritage House, are required to operate accessible websites. In Hungary, the Government Website Accessibility Monitoring System (KWAER) checks websites based on the Web Content Accessibility Guidelines (WCAG) 2.1 standards to ensure that content is available to everyone, including users with visual, hearing, or mobility impairments.

The website of the Hungarian Heritage House is continuously developed to meet these standards and is therefore essentially accessible. For the digital content presented in the exhibition, we used the ThingLink platform, which is also widely applied by museums internationally. This platform allows integrated images and text to be accessed in an accessible manner. It supports features such as high-contrast text display, adjustable font sizes, and text-to-speech functionality, including control over reading speed.

In the exhibition, we aimed to design and offer playful and engaging elements for visitors with different sensory disabilities. However, it was not our goal for every element to be universally applicable to all visitors with disabilities. Our main purpose was to create a set of tools that could share information with visitors with sensory impairments and, through interactive elements, reflect on our collection and artefacts.

2.3. **Interactive and Multisensory Exhibition Elements**

The exhibition is an experiment in presenting the collection of the Museum of Hungarian Applied Folk Art, part of the Hungarian Heritage House, in a museum education space that is accessible and engages multiple senses in an interactive way. Here, children, adults, and visitors with disabilities can all access information through direct, hands-on experience.

Based on the collection, the exhibition highlights seven thematic areas: Gingerbread-making, felting, the tradition of pottery, the lifestyle and decorative arts of shepherding, embroidery and furniture painting, and the world of children's toys made from natural materials. For each theme, the space combines original objects, demonstration pieces, interactive games, illustrative tools, and digital content, with a primary focus on encouraging active participation.

Some of the texts in the exhibition were displayed on the walls as textile prints, while others were presented on panels that visitors can assemble themselves. In this way, visitors become active participants in building the exhibition, which requires cooperation and teamwork. The textual panels are complemented by visual illustrations of the various crafts, which also serve as valuable informational tools. Each theme was marked with a different colour to make the sections easy to distinguish.

Alongside the text panels, we placed demonstration objects that visitors can touch to experience shapes and materials directly. The sense of touch is complex, and its experiential dimension is referred to as haptic perception (Móga Sebők, 2017). Furthermore, we developed interactive games suitable for different age groups, tailored to developmental and cognitive levels. These games were created by contemporary folk artists who participated in the project's training sessions, taking into account elements such as high contrast and structural stability.

For the pottery thematic area, two interactive demonstration games were developed and crafted by Aliz Bangó, a folk artist potter, specifically for the ToMiMEUs project. When creating the demonstration tools, she carefully considered the characteristics and textures of the clay objects, as the roughness, temperature, and form of a surface play a significant role in haptic perception, influencing both sensory experience and the learning process. As Móga Sebők (2017, p. 87) explains, "Objects possess a defined three-dimensional form in space, but visually, their contours distinguish them from the background. In normal vision, the instantly recognisable outline of an object, for example, the side view of a table or the front view of a house, is dominant. For visually impaired persons, however, haptic perception builds up a different kind of form experience, progressing detail by detail through touch." These principles were applied in the development of all tactile-based games. For presenting the decorative arts of pottery, demonstration tools were combined with actual artefacts, linking textual and tactile learning with direct engagement with museum objects.

Several volunteer gingerbread makers and folk artists joined the ToMiMEUs project, enriching the playful presentation of this theme with their ideas. Representatives of the craft, Mirtill Seregély, Judit Szmelo Dávidné, and Judit Tószegi, created gingerbread pieces of various shapes, patterns, and decorations for demonstration. These objects can be touched and smelled by visitors throughout the exhibition space. To allow for handling, the makers used a harder type of dough that is less fragile.

In the game designed by gingerbread maker Mirtill Seregély, visitors can match baked gingerbread pieces with the carved wooden moulds (stamps), created by woodcarver György Kövér, by feeling them with their eyes closed, searching for matching convex and concave forms through touch. One of the most popular activities in the exhibition is the 'gingerbread memory game,' enjoyed not only for the playful experience but also for the pleasant aroma of the cookies. The scent of gingerbread drifts through the exhibition space from time to time, but we also considered it important to highlight the ingredients themselves. Visitors can

focus on their sense of smell while identifying four spices, anise, cinnamon, ginger, and clove. Although gingerbread for tasting is not displayed in the exhibition, during museum education sessions fresh gingerbread is often baked, which children delight in sampling and eating.

As part of the ToMiMEUs project, felt makers and folk artists Csilla Dobinszki and Bea Németh developed two games for museum education activities, which were integrated into the exhibition and used during workshops. Dobinszki designed a two-player tactile game in which visitors, with their eyes closed, guide a finger through a maze, encountering and avoiding various obstacles along the way. Németh created felt panels showcasing different felting decoration techniques. Each technique was represented by two identical panels, enabling the sets to function both as demonstration tools and as a tactile memory game. This memory game not only encourages learning through touch but also develops communication skills, as players must verbally describe the shapes and patterns they perceive with their hands.

The games are designed not to emphasise visitors' hearing or visual impairments, but rather to focus on the skills that all participants share and can develop during play. At the same time, they encourage the activation of multiple senses in engaging with the exhibition, seeing, touching, hearing, and smelling, so that the experience becomes both inclusive and multisensory.

Alongside original artefacts, the exhibition features textual and visual information, demonstration objects, and carefully designed, high-quality handcrafted games across the seven thematic areas, each introducing a traditional folk craft represented in the collection.

3. **Museum Educational Sessions in ToMiMEUs**

3.1. **Planning and Participant Structure**

In the following, we turn to the planning and implementation of the museum education sessions integrated into the exhibition space described above. A key element of the project was the training of museum professionals. The success of the project was grounded in thorough preparation and the considered design of the exhibition space. "The first interactive exhibition in our museum laid the foundation for the successful implementation of the Erasmus+ ToMiMEUs project" (Hatházi & Sălăgean, 2022). When planning the activities, we clearly distinguished between teaching and learning objectives, allowing us to design in detail both the role of the museum educator and the tasks of the learners.

Within the programme, museum education sessions were organised in a museum setting for mixed groups of children with and without sensory disabilities, combining knowledge transfer with collaborative creative activities.

Between November 2021 and April 2022, we established partnerships with three schools, from which a total of twenty students were invited to participate in our sessions. We formed two mixed groups: One consisting of five children with visual impairments and five sighted peers, and another of five children with hearing impairments and five hearing peers, all aged

between 10 and 12. Each group participated in four museum education sessions. "Our goal was to help the children become familiar with the museum, with us as facilitators, and with one another, while also gaining insight into each other's challenges and the differences in their sensory perception. In addition to whole-group instruction, the sessions included individual, pair, and group activities" (Gál & Legeza, in press).

We also designed separate programmes for the group of children with visual impairments and the group with hearing impairments. The objective of this initiative was for us, as facilitators, to independently engage with and deepen our understanding of pedagogical methodologies essential for working with children with diverse disabilities. This approach enabled us to learn and practice methods tailored to the specific needs of each group, thereby ensuring that the learning process is effective, inclusive, and responsive to the varied challenges presented by different types of disabilities.

3.2. **Introductory and Awareness-Raising Sessions**

The initial session was consistently dedicated to establishing a foundation for subsequent thematic museum visits through team-building and introductory activities. During these sessions, we focused on helping students from the two different schools get to know each other, as well as familiarizing them with the museum environment and the facilitators. The session had a preparatory and friendly character, aiming not at the transfer of knowledge but at the development of social competences.

At the start of the sessions, we dedicated approximately half an hour exclusively to working with the typically developing children. Through playful and interactive activities, we drew their attention to aspects that could help them understand the difficulties, challenges, and differences experienced by peers with visual or hearing impairments. As Tóth-Szerecz (2022, p. 77) notes, "Despite the growing presence of students with disabilities in mainstream classrooms due to the expansion of inclusive education, children often possess only limited knowledge or understanding of peers who may differ in appearance, have specific educational needs, or exhibit non-normative behaviours".

To support this experiential learning, we borrowed special simulation glasses from the Bárczi Gusztáv Faculty of Special Needs Education at Eötvös Loránd University (Budapest, Hungary). These glasses allowed the children to temporarily experience various forms of visual impairment, such as seeing only in patches, using just one eye, or perceiving their environment through a narrowed visual field, thus helping to foster empathy and awareness through embodied learning. During these activities, students were given tasks to complete while wearing the simulation glasses, which enabled them to experience everyday learning situations from the perspective of children with visual impairments. For instance, they were asked to read, draw, or simply navigate within an enclosed space. These exercises were designed to help students reflect on the wide range of visual disabilities and to deepen their understanding of the challenges associated with them.

With another group of typically developing students, the focus shifted to hearing impairments. We introduced a variety of games and exercises that required attention to subtle sounds, such as faint noises, whispers, or speech delivered at low or irregular volume. The communication exercises also focused on how to handle situations when we cannot easily understand someone's words.

When getting to know the whole group, we used traits associated with names to highlight personality. Sitting in a circle, we memorized each other's names, which slowed down communication and helped us pay attention to each other.

3.3. Inclusive Learning Activities and Craft Workshops

For the mixed group of visually impaired and non-disabled children, we organised further sessions where they learned about gingerbread making, felting traditions, and pottery. These thematic sessions began within the exhibition *Scents, Flavours, Shapes – Look by Hand, See by Heart*, where knowledge was always conveyed through artefacts, previously introduced demonstrative tools, and interactive games. The programme then continued with guided craft activities, encouraging children to work in pairs and create collaborative works. Together, they baked gingerbread, shaped clay vessels, and crafted felt tulips.

Csilla Dobinszki, a craftswoman and workshop leader in the project, reflected on how she organised the activity: "I designed the interactive felt objects and games in the exhibition in a way that the knowledge gained from the material would support the learning basics and process of felt-making. Through the games, they discovered all the important qualities of wool and felt that are essential when making felt objects" (Gál & Legeza, in press).

The special feature of the workshop was that the children worked with their eyes closed, so everyone focused equally on touch and hearing. "The children worked in pairs, one visually impaired child and one sighted child together. I paid great attention to preparation so I placed the tools and materials on each table in advance, and at the beginning we talked through where everything could be found. While making the felt tulip, I gave clear, simple instructions and kept referring back to the exhibition so the children could connect what they learned there. I tried to keep them engaged all the way through, and at the end, their teachers confirmed that it worked, the children stayed focused and active" (Gál & Legeza, in press).

During the activity, the children often passed the felted balls to each other, so they could feel how dense their partner had made the tulip and how much soap and water they used. They even worked into each other's tulips, so in the end, the finished products became the result of shared work.

For the mixed groups of hard-of-hearing and non-disabled children, after the introductory session we organised one pottery workshop and two sessions on shepherd traditions. These focused on introducing shepherd music, along with related movement, shepherd dances, and different aspects of shepherd material culture.

"My primary goal with the workshop was to spark curiosity about the museum for both typically developing children and those with hearing difficulties. At first, I had very limited knowledge about children with hearing impairments or about the museum-visiting habits of people with hearing loss, so planning a music- and dance-based workshop for them seemed like a real challenge," reflected workshop leader István Megyeri (Gál & Legeza, in press). For the project, we selected colleagues who had no prior experience with the target audience.

During the implementation of the programme, we aimed to create a framework and methodology that could effectively convey the traditions of various folk crafts through an exhibition. At the same time, the related craft, music, and dance workshops offered children with and without sensory disabilities the opportunity for inclusive education to learn and create side by side.

The effectiveness of these activities and their impact on participants, museum professionals, and the institution are discussed in the following section.

4. **Results: Project Outcomes and Impact**

The implementation of the Erasmus+ ToMiMEUs project resulted in outcomes at three interconnected levels: Participant experiences, institutional development, and long-term accessibility planning. The feedback collected from children and teachers indicated positive social and learning experiences, while the institution benefited from increased professional competence, expanded partnerships, and the establishment of a permanent multisensory exhibition. The project also promoted long-term thinking and action regarding accessibility and inclusion, which continue to shape future developments at the museum.

4.1. **Participant and Teacher Feedback**

The feedback collected during the project can be summarized in several key findings. For the implementation of the project, cooperation was established with three schools in Budapest. Although the management of the participating schools was not formally surveyed, accompanying teachers were asked to provide feedback on their experiences and professional suggestions through a questionnaire, while students were invited to share their reflections at the end of the sessions. The feedback questionnaires were prepared for the institution by the staff of the Bárczi Gusztáv Facultyof Special Needs Education at Eötvös Loránd University (Budapest, Hungary). The feedback from students and teachers was summarized in the Intellectual Output phase six of the project and published on the project website. Four teachers completed the questionnaires. "Their answer about the preparation was different so they helped the museum visit with conversations and previous museum visits however they didn't feel the need of preparation. All of them positively emphasised that the museum's staff were well prepared and adequately piqued the children's interests. The environment and the topic of the sessions were carefully designed, paying attention to the needs of the children. They all mentioned that they accompanied the children and helped overcome communication difficulties. This suggests that the museum educator, workshop leader and the accompany-

ing teacher work in harmony and help each other within the framework of a session. The teachers all said that was very useful and effective that the children could meet with other children with typical development" (Hatházi & Sălăgean, 2022). Constructive feedback was also received, providing valuable directions for the further development of the programme. One teacher pointed out that the project primarily focused on providing students with shared learning experiences through joint museum activities, while less attention was given to how these experiences could be integrated into the formal school curriculum. This observation suggests that future programmes could place greater emphasis on strengthening the connection between museum learning and curricular objectives. The feedback and the reflective evaluation of the project also suggested that, in line with developmental characteristics of this age group, friendships tended to develop more readily among same-sex peers than between boys and girls. "The experience is that in the group where there were only girls, closer friendships were formed, which allows to conclude that the effectiveness of the sessions can be influenced by the composition of the group, since it is a characteristic of developmental psychology that girls and boys in this age group are less friendly to each other" (Hatházi & Sălăgean, 2022). The evaluation also indicated that the scheduling of repeated museum visits may influence the success of the programme. "The experience is that the success of the sessions can be influenced by the time schedule. For one group, we held the 4 sessions over a longer period of time, with us it was less possible to notice the formation of close relationships, while for the group who came to us 4 times in a shorter period of time, more excitement, anticipation and joy could be observed" (Hatházi & Sălăgean, 2022).

Feedback was collected not only from the workshop leaders and teachers but also from participating children. "At the end of the workshops, children wrote to their friends from the other school to tell them what they felt during the workshops at the museum and what they wish to other. Their answers were very kind: "Good luck!", "Never give up!", "I hope we see each other again!", "It was good to be with you!", "I hope our friendship will last a long time!", "I'm glad you helped me!". We hope that from different schools, children with sensory disabilities and children without disabilities formed long-lasting friendships during the workshops" (Hatházi & Sălăgean, 2022).

The feedback suggests that the programme was particularly successful in fostering social interaction between children with and without sensory disabilities. Beyond the acquisition of knowledge related to Hungarian folk traditions, participants highlighted cooperation, mutual assistance, and the development of interpersonal relationships as the most valuable aspects of the experience.

4.2. **Institutional Impact**

The project had several important impacts on the museum. During the three-year implementation period, it attracted new visitor groups, provided opportunities for staff development, strengthened professional networks, and increased the visibility of the institution. All of these contributed to the fact that the exhibition and the related museum education sessions remained available after the end of the project.

The exhibition gave the institution the first opportunity to reach audiences who had not visited the museum before, as their access had previously been limited by barriers.

Within the project, museum education sessions were held for children with low vision and hearing impairments, during which the games, demonstration objects, and digital content were tested. Insights from these sessions informed the further development of the space, which continues to provide the foundation for the museum education sessions today.

Since the completion of the project, an increasing number of groups of children with disabilities have visited the museum. Thanks to the exhibition and the project, lasting connections have been established with special schools providing education for children with special needs.

As a result, "staff of the museum developed professional competences in how to elaborate the presentations for the artefacts ranging from the dimension, objects and colours to the historic and artistic context for the items and, at the same time, to answer the possible questions coming from the participants. At the same time as a result, we can mention the fact that the staff understood the importance of visual and tactile stimulation using different methods and inclusive/adaptive techniques. These aspects allowed them to create content and materials adapted for people with sensory disabilities" (Hatházi & Sălăgean, 2022). The project strongly supported the professional growth of colleagues at the Hungarian Heritage House, allowing them to develop their skills, gain experience in group settings, and put into practice the knowledge acquired during the theoretical training sessions. The international training activities provided them with the necessary foundations, while the practical workshops served as valuable opportunities for experimentation and learning in real time.

4.3. **Long-Term Inclusivity Strategy**

One of the most important long-term outcomes of the project was the recognition that accessibility and inclusion cannot be treated as temporary project objectives but must become integral parts of the institution's ongoing development strategy. Through the Erasmus+ ToMiMEUs project and the exhibition *Scents*, *Flavours*, *Shapes – Look by Hand*, *See by Heart*, the Museum of Hungarian Applied Folk Art was able to take its first major steps towards becoming a modern, inclusive, and multisensory institution. The knowledge, experiences, and professional networks developed through the project continue to support the ongoing development of museum services and educational activities for visitors with diverse needs. Feedback from the international partners suggests that the project successfully contributed to the creation of an inclusive, experience-based learning and leisure environment that supports both educational and recreational engagement.

Among the next steps is the development of an Easy-to-Read (E2R) communication strategy, which will help ensure accessible cultural experiences for individuals with cognitive or comprehension difficulties. The long-term objective is to embed accessibility principles into future exhibitions, museum education programmes, and communication practices, ensuring that inclusion remains a central element of institutional development.

The experiences gained through the ToMiMEUs project encouraged the museum to continue developing inclusive programmes, strengthening partnerships with special education institutions, and integrating accessibility considerations into future exhibitions and educational activities.

5. **Conclusion**

The ToMiMEUs project contributed to the development of museum education practice at the Hungarian Heritage House in many ways. The project provided opportunities for further training of the museum staff, while the new interactive exhibition with the pilot programme helped to reach new visitor groups and schools that had not previously participated in the institution's programmes.

Since the activities of the Hungarian Heritage House are not limited to organising museum exhibitions, but also include training courses, handicraft workshops, and a wide range of dance and music performances, the museum education activities of the Museum of Hungarian Applied Folk Art constitute only one of the many channels through which visitors can engage with the institution's diverse activities and services. It was also noticeable in the visitor questionnaires and feedback that the visibility of the whole institution among people with sensory disabilities increased as a result of the project and the institution's inclusive efforts.

During the project, the joint learning experiences of participants with and without disabilities provided valuable directions for professional development. At the same time, the experiences drew the attention of the institution, museum staff, and participants alike to the awareness-raising role of the activities and to the need to increase understanding of disabilities and diversity. The implemented programmes not only enrich the activities of the Hungarian Heritage House, but also prove that museum education and craft workshops can be excellent venues for inclusive teaching and learning.

The inclusive exhibition, created to support the successful implementation of the project, has continued to grow in both theme and presentation since its opening in 2021. It was later designated as a permanent exhibition of the Hungarian Heritage House, so the experiences of the project and the interactive exhibition have been used ever since. The success of the initiative is further demonstrated by national recognition: Following the project's conclusion, the museum education sessions received the Museum Education Award of Excellence, Special Prize 2022, while the exhibition *Scents, Flavours, Shapes – Look by Hand, See by Heart* received a Certificate of Recognition as a Nominee for Exhibition of the Year 2022.

Year after year, an increasing number of groups of children with disabilities participate in the institution's museum education sessions, and several institutions (schools and universities) have also become regular visitors and professional partners of the museum. Through the Erasmus+ ToMiMEUs project, the Hungarian Heritage House was able to respond effectively and successfully to the expectations of the new museum definition, which emphasises inclusion, and to take its first steps toward becoming a more accessible and inclusive institution.

Although the project has helped the institution make progress in accessibility, inclusivity, and multisensory engagement, these first steps are not enough to ensure these goals are sustained in the long term. Since then, the institution has continued to explore new opportunities to take further steps and play a greater role in promoting cultural accessibility.

In conclusion, this study has reflected on the developments and impacts of the Erasmus+ ToMiMEUs project at the Hungarian Heritage House, highlighting how a multisensory exhibition and inclusive museum education activities can enhance accessibility for visitors with sensory disabilities. By situating this case study within both international and institutional objectives, the findings contribute to understanding effective strategies for inclusive museum practice. The project outcomes indicate that multisensory exhibitions and inclusive museum education activities can encourage social interaction between children with and without disabilities, support inclusive learning, and contribute to the long-term development of museums. The study also offers insights for similar institutions aiming to improve accessibility.

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Boglárka Gál received her BA in Ethnography and MA in Educational Science, Ethnography, and Ethnology with Teacher Qualification from the University of Pécs (Hungary), and a postgraduate degree as a Specialist in Museum Education from Eötvös Loránd University (Hungary). She has worked as a museum educator since 2015. At the Damjanich János Museum (Szolnok, Hungary), she was part of a team that developed an award-winning programme, and at the Hungarian Olympic and Sports Museum (Budapest, Hungary) she researched sports and reform movements. Since 2017, she has focused on presenting and teaching Hungarian applied folk art through exhibition objects at the Hungarian Heritage House (Budapest, Hungary). She curates the inclusive permanent exhibition linked to the Erasmus+ ToMIMEuS project, nominated for National Exhibition of the Year in 2022, and its experimental sessions received the Special Prize at the 2022 Museum Education Excellence Award competition.

TACTILE TAZHIB AND CALLIGRAPHY: CREATING AN INCLUSIVE EXHIBITION OF ISLAMIC ART FOR BLIND AND VISUALLY IMPAIRED AUDIENCES

Selma PANDŽIĆ

TACTILE TAZHIB AND CALLIGRAPHY: CREATING AN INCLUSIVE EXHIBITION OF ISLAMIC ART FOR BLIND AND VISUALLY IMPAIRED AUDIENCES

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Abstract

This paper presents the development of a tactile exhibition of Islamic art centered on tazhib (illumination) and calligraphy, designed specifically for blind and visually impaired visitors at the upcoming Museum of Islamic Culture and Art in Sarajevo. The exhibition features touchable reproductions of ornamental and calligraphic works created by the author, using textured materials like relief paste, fabric, wood, and raised-line techniques, allowing visitors to experience the spiritual and aesthetic dimensions of Islamic art through touch. The tactile experience is enriched by a curated soundscape featuring ambient and culturally resonant music that enhances spatial orientation and emotional engagement. The methodology combines participatory design with the author's prior experience conducting adapted art workshops for children with special needs, emphasizing co-creation with local disability organizations. This collaborative approach ensures that accessibility is not treated as an afterthought but as a generative principle of artistic practice. The project is situated within broader discourses of inclusive museology and universal design, drawing upon research that frames accessibility as both an ethical responsibility and a creative opportunity. The paper argues that Islamic visual heritage is often perceived as exclusively ocular, yet it can be meaningfully reimagined as a multisensory, inclusive practice. By translating illumination into texture and calligraphy into relief, the exhibition demonstrates that inclusivity is inherently creative, expanding the expressive language of Islamic art. Moreover, the project highlights how tactile and auditory modalities can foster empathy, deepen cultural participation, and open new horizons of interpretation for diverse audiences. Ultimately, this initiative offers a replicable model for inclusive heritage interpretation in the Balkans and beyond, contributing to global conversations on accessibility and the evolving role of museums as spaces of shared contemplation and embodied knowledge.

Keywords

Tactile Exhibition, *Islamic Calligraphy*, *Islamic Illumination*, *Inclusive Museology*, *Multisensory Heritage*

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Islamic art is the visible language of spiritual order, in which every element reflects the totality of existence as an expression of divine unity (tawhid). Everything manifested within Islamic art is a symbol of universal being (Nasr, 1987). Art, in this sense, is not mere decoration or representation, but an act of creating beauty that human perception and contemplation can apprehend and understand. Through this creative journey, the artist moves closer to the Divine, producing works that remain eternally connected to God. From this holistic perspective, Islamic art is inherently inclusive. Before God all humans are equal regardless of their abilities or limitations, for the essence of creation lies in shared origin and unity. Therefore, the experience of Islamic art should be accessible to everyone. Making Islamic art available to blind and visually impaired audiences is not an act of accommodation but of spiritual coherence. If Islamic art is the reflection of divine order, then exclusion contradicts its very nature (Nasr, 1987). The tactile reinterpretation of tazhib and calligraphy becomes an act of restoring that unity, allowing every individual to encounter beauty through the senses that God has granted them.

The field of inclusive museology, emphasizing accessibility and universal design, now offers new frameworks for transforming how Islamic art can be experienced beyond the visual. This study explores the creation of a tactile exhibition of Islamic art focusing on tazhib and calligraphy, with the goal of reinterpreting these visual forms into multisensory experiences through touch and sound.

The primary research question guiding this study is: How can Islamic visual heritage be reimagined as a multisensory, inclusive practice through tactile reinterpretation without compromising its metaphysical intent?

The inclusion of tactile elements within the exhibition setting allows for a redefinition of the relationship between the viewer and the artwork. Rather than passive observation, the encounter becomes participatory, sensorial, and deeply embodied. Scholars of museum accessibility note that tactile engagement not only benefits blind and visually impaired audi-

ences but also enriches the aesthetic comprehension of sighted visitors by engaging multiple sensory modalities (Classen, 2017). In this context, tactility becomes a democratic mode of experiencing heritage, emphasizing shared sensory agency rather than visual privilege.

The exhibition concept explored in this paper situates itself at the intersection of Islamic aesthetics, sensory museology, and inclusive design. It investigates how tazhib and calligraphy, art forms rooted in spiritual contemplation and material precision, can be transformed into tactile, accessible experiences without losing their metaphysical resonance.

Through tactile engagement, visitors can sense rhythm, movement, and divine order inherent in these works, accessing the essence of beauty that Islamic art seeks to convey.

Recent museological and heritage studies emphasize that accessibility must be conceived as an integral part of artistic production and curatorial practice rather than a subsequent adaptation (Candlin, 2010; Fotiadi, 2024; Simon, 2010). This perspective asserts that universal design and cultural inclusion should be embedded into the very process of heritage interpretation and co-creation.

In the context of Islamic art, which has historically integrated the visual, the textual, and the spiritual, the tactile dimension offers a new interpretive pathway, allowing rhythmic calligraphy to be experienced as an expression of divine harmony. The project thus reimagines Islamic artistic tradition as an inclusive, multisensory field of experience one that acknowledges that beauty transcends the limits of sight.

To address the research question, this study employs a qualitative case study approach grounded in participatory action research (PAR). The methodology combines artistic practice-led research with consultative processes involving key stakeholders. Specifically, the development of the exhibition involved ongoing consultations with local disability organizations and individuals with visual impairments during the design phase. These consultations served as a formative evaluation mechanism, ensuring that the tactile solutions were not only aesthetically aligned with Islamic art traditions but also functionally accessible. For instance, blind and visually impaired participants actively decided on the tactile materials, testing various relief pastes to choose the one that provided the best haptic legibility, selecting specific wood textures that distinguish calligraphic curves from tazhib backgrounds. Furthermore, consultations shaped the soundscape development; based on user input, the auditory layer was calibrated to balance ambient tones with Qur'anic recitations, ensuring that spatial audio cues facilitate wayfinding without sensory overload.

The author's prior experience conducting adapted art workshops for children with special needs informed the initial design strategy. However, to ensure the academic and practical applicability, the project integrated feedback loops from potential users. This collaborative approach ensures that accessibility is not treated as an afterthought but as a generative principle of artistic practice. Data for this analysis were gathered through documentation of the design process and records of consultative meetings maintained by the artist-curator. This methodological triangulation allows for a structured analytical reflection on the challenges and outcomes of translating visual theology into tactile forms.

1. **Calligraphy and Tazhib (Islamic Illumination): Visual Theology in Islamic Art and Aesthetics**

Mudhahhibs, the artists devoted to illumination, sought through their craft to visually represent Qur'anic verses or poetic lines by means of symbolic language. Ornamental compositions and individual motifs in many illuminated works symbolize the Divine presence; most often these motifs evoke paradisiacal gardens, refuge, and God's mercy.

The colors and motifs employed in the illumination of the Qur'an or other treasured texts carry specific symbolism. Gold, most frequently used in tazhib, signifies Divine Light, while blue, lapis lazuli, symbolizes God's mercy. The creation of ornamental systems within a work of Islamic traditional art, tazhib, aims to establish a spiritual space. These ornamental systems are constructed according to principles of repetition, symmetry, reflection, and proportion.

The philosophical foundations of Islamic aesthetics rest on the conviction that beauty is inseparable from truth and spirituality, shaping artistic creation as a reflection of divine order. As Burckhardt (1976) observes, Islamic art "participates in the order of divine creation" allowing the artist to mirror spiritual realities through beauty. Art, in this sense, is not mere decoration or representation, but an act of creating beauty that human perception and contemplation can apprehend and understand (Schuon, 1976). Through this creative journey, the artist moves closer to the Divine, creating works that reflect the beauty of God's creation and invite remembrance of Him.

This vision of art as a pathway to the Divine finds its most tangible expression in the symbolic language of Islamic artistic traditions. Rooted in metaphysical principles, Islamic art translates spiritual realities into visible forms of harmony and meaning.

Islamic art rich in symbolism and spiritual meaning, has historically communicated divine beauty through visual harmony, geometry and calligraphy. Among its most refined expressions, tazhib, the art of illumination, and Arabic calligraphy embody the unity of form and meaning, merging artistic craftsmanship with religious devotion. However, these art forms have traditionally been appreciated almost exclusively through the sense of sight, which poses a significant barrier for blind and visually impaired audiences. Museums and galleries frequently privilege sight as the primary mode of engagement, leaving blind and visually impaired audiences excluded from experiencing this heritage. Inclusive exhibition design is not only a matter of accessibility but also of cultural justice, ensuring that the spiritual and aesthetic dimensions of Islamic art are shared across diverse audiences. As the Smithsonian Guidelines for Accessible Exhibition Design (Smithsonian Accessibility Program, 2010) emphasize, accessible design must be embedded into exhibition philosophy from the outset, addressing diverse learning styles, cultural equity, and multiple levels of engagement rather than being treated as a secondary adaptation.

Calligraphy holds a central place in Islamic visual culture as the most revered of all art forms, embodying the sacred presence of the Divine Word. As Nasr (1987) explains, Islamic calligraphy transforms the act of writing into a contemplative practice in which form and mean-

ing converge, allowing the written word to become "a visible echo of revelation." Burckhardt (1976) states that unlike representational art, calligraphy does not depict the created world but manifests the spiritual reality of language itself, its rhythm, proportion, and flow mirroring the harmony of divine creation.

Transforming visual art into tactile form raises both philosophical and practical questions. How can calligraphy designed for the eye be made readable by touch? Or how can the art of illumination, also crafted for vision, be translated into tactile legibility? Scholars of sensory museology describe this process as a form of " tactile translation", a reinterpretation rather than a replication of visual features (Candlin, 2010; Classen, 2017). In the tactile exhibition of the forthcoming Museum of Islamic Culture and Art in Sarajevo, visitors are invited to experience Islamic calligraphy and tazhib, illumination, not through sight but through touch. Each artwork has been carefully crafted to evoke both aesthetic beauty and spiritual contemplation. Wooden calligraphic compositions, Arabic letters, as well as elements of tazhib, are rendered with raised relief paste that gives form to the fluid movement of the script, while delicate floral ornaments emerge as textured motifs, petals, leaves, and arabesques that can be felt beneath the fingertips.

Within the tactile exhibition, this sacred dimension of calligraphy acquires new depth. By tracing the raised contours of Arabic letters, visitors engage not only with the aesthetic structure of the script but also with its spiritual resonance. The physical act of touching becomes an embodied form of contemplation, a sensory dhikr - a remembrance of the Divine through the fingertips. Islamic art emerged primarily as an art of the sign and remembrance of God, as a sign, because it carries an inherent idolatrous potential, and as an art of remembrance, because the ultimate purpose of every authentic work of Islamic art is to remind the human being, to awaken and purify his consciousness, to guide it and bring it closer to God. In this sense, it appears foremost as an aesthetic sign, a transformed expression of Divine revelation (Isanović, 2009). As Schuon (1976) notes, the beauty of Islamic art is never superficial; it is "a gateway to the intelligible order." In the context of this exhibition, tactile calligraphy restores that gateway to those for whom visual access is limited, reaffirming that divine beauty transcends sight and belongs equally to all senses through which the human being can encounter truth.

1.1. **Inclusion, Accessibility, and Multisensory Museology**

Museums across the world have begun integrating tactile, auditory, and olfactory elements to enable blind and visually impaired visitors to experience art meaningfully. The development of accessible exhibitions is grounded in the principles of universal design, which seek to create environments usable by all people, to the greatest extent possible, without adaptation or specialized design (Mace, 1998). In recent museological discourse, inclusivity has shifted from a focus on physical access to a broader understanding of sensorial and cognitive participation, as highlighted in studies of multisensory museum experiences (Luo et al., 2024; Pietroni, 2025). Inclusive exhibitions increasingly frame accessibility not as supplementary but as fundamental to curatorial ethics and audience engagement, a perspective reinforced by recent discussions on inclusive curating and exhibition design (Fotiadi, 2024; French & McQuay, 2020).

Scholars of sensory museology argue that tactile engagement transforms the passive act of seeing into an active process of knowing through embodied perception. Within this framework, touch becomes not merely a supporting sense, but a vital epistemic mode through which visitors construct meaning. The sense of touch enables an understanding of texture and spatial relation, offering a cognitive and emotional bridge to the material world.

Classen (2017) observes that touch, long marginalized in Western art traditions that privilege the eye is regaining its epistemic significance in museum studies as a medium of inclusion, empathy, and memory. Similarly, Candlin (2010) emphasizes that tactile interaction in museums reconfigures authority, allowing visitors, especially those, who are blind or visually impaired to become active interpreters rather than passive spectators. In inclusive exhibition design, touch thus functions both as an interpretive strategy and as an ethical gesture, expanding access while redefining what it means to "see" art (Candlin, 2017).

In this light, the tactile reinterpretation of Islamic art aligns with contemporary sensory anthropology and with the theological concept of divine unity (tawhid) expressed through multiplicity of forms. As Nasr (1987) reminds us , every authentic work of Islamic art reflects the unity of the Divine manifested in diversity. By inviting visitors to experience that unity through their hands rather than their eyes, the exhibition not only challenges ocular-centric paradigms of art appreciation but also restores the holistic vision of Islamic aesthetics, where beauty, form and perception are inseparable aspects of spiritual knowledge. Visitors are invited to engage slowly, tracing the sacred words with their fingertips, transforming perception into a meditative act of touch. In this embodied encounter, touch becomes a bridge between material and spiritual experience, echoing the Sufi understanding that beauty is a manifestation of divine presence in form. As Nasr (1987) writes, Islamic art " makes the invisible world visible through the language of form and rhythm." Within this exhibition, that language extends beyond sight, offering blind and visually impaired visitors an opportunity to perceive the divine word through the senses that God has bestowed.

1.2. **Introduction to Global Practices of Tactile and Inclusive Exhibitions**

Over the past two decades, museums worldwide have increasingly sought to redefine accessibility as an essential aspect of curatorial ethics rather than a supplementary service. The development of tactile and multisensory exhibitions has been central to this transformation, offering new possibilities for audiences who experience the world through non-visual modalities. These initiatives are grounded in the principles of universal design and participatory museology, both of which advocate for equitable sensory experiences and the dismantling of barriers of cultural participation (Candlin, 2010).

While accessibility practices in museums initially focused on architectural design and audio guides, a growing body of projects now emphasizes tactile and haptic interaction as integral to artistic interpretation (Candlin, 2017). Such projects have expanded globally, from Europe to the Middle East and North America, demonstrating that inclusion is not only an ethical imperative but also a creative opportunity to rethink how art can be experienced.

This chapter reviews key international case studies that have significantly contributed to the development of tactile and inclusive exhibition design. It identifies curatorial methods, technical strategies, and interpretive frameworks that have successfully engaged blind and visually impaired audiences. These examples also provide critical insights into how the Islamic art exhibition in Sarajevo can integrate tactile and multisensory approaches that are both culturally authentic and experientially rich.

1.2.1. "BlindArt"- United Kingdom, 2004-Present

Founded in 2004, the UK-based organization BlindArt pioneered an inclusive exhibition model in which all artworks are designed to be touched. The initiative challenges conventional museum policies that prohibit tactile engagement and repositions touch as an aesthetic right (BlindArt, 2005). Exhibitions curated by BlindArt include sculpture, mixed media, and relief paintings created by both sighted and blind artists, all emphasizing tactile richness and emotional resonance.

The curatorial framework of BlindArt relies heavily on participatory design, where artists collaborate with visually impaired audiences during the creation process to ensure that the works communicate meaning through tactile language (BlindArt, 2005). This participatory ethos aligns closely with the approach proposed for the Sarajevo exhibition, which integrates collaboration with local disability organizations.

Moreover, BlindArt emphasizes the affective dimension of art appreciation. Visitors are encouraged to interpret texture, weight, and temperature as expressive features, elements that convey emotion and spirituality (BlindArt, 2005). Such an approach parallels the sensory experience of tazhib and calligraphy, where rhythm and harmony are experienced as spiritual gestures rather than visual ornamentation.

1.2.2. "See Art with Your Hands" – The Italian National Tactile Museum Omero

The Italian National Tactile Museum Omero, located in Ancona, stands as one of the leading institutions in Europe dedicated to the promotion of tactile culture and inclusive museology. Omero was opened with the idea that art should be accessible to all, regardless of visual ability. Unlike conventional art institutions where touching artwork is prohibited, Omero encourages direct tactile interaction as a primary means of aesthetic and cognitive experience (European Blind Union, 2022). The forthcoming tactile exhibition at the Museum of Islamic Culture and Art in Sarajevo transforms the act of perception into an inclusive, meditative engagement that reflects the Qur'anic principle of unity within diversity. The project thus extends Omero's model into a new cultural and theological context, where inclusivity is not only a museological ideal but a manifestation of the Islamic understanding of equality before God.

1.2.3. Sharjah Museums Authority- UAE

In the Middle East, the Sharjah Museums Authority has established itself as a regional leader in inclusive heritage interpretation. Since 2014, its tactile exhibition programs have enabled blind and visually impaired audiences to explore Islamic manuscripts, ceramics and

architectural ornaments through specially designed 3D models and raised relief reproductions (Sharjah Museums Authority, 2022). The initiative combines educational workshops with curatorial collaboration, ensuring that accessibility becomes embedded within institutional practice rather than isolated as an outreach activity.

Sharjah's model is particularly significant because it situates inclusivity within an Islamic cultural framework. Accessibility is framed as a moral and social responsibility consistent with Islamic principles of equality and compassion. This provides an important precedent for the Sarajevo exhibition, where inclusive design can be rooted not only in contemporary museology but also in Islamic ethics.

The reviewed case studies demonstrate that tactile exhibitions succeed when they merge inclusivity with authenticity, when accessibility is integrated into the creative process rather than appended to it. They reveal that tactile engagement transforms not only the sensory modes of experiencing art but also the philosophical understanding of beauty, presence, and knowledge.

Applying these principles to the Sarajevo context means situating inclusion within the local cultural and spiritual landscape. The forthcoming Museum of Islamic Culture and Art in Sarajevo provides a unique setting for such a model, where traditional Islamic art forms can be reinterpreted as tactile participatory experiences. The exhibition's focus on tazhib and calligraphy offers fertile ground for multisensory translation : visitors will "read" verses and ornamental rhythms through touch and sound.

By aligning universal design principles with Islamic aesthetic sensibilities the Sarajevo exhibition can serve as a pioneering example in Southeast Europe, a bridge between traditional sacred art and contemporary inclusive museology. This synthesis of heritage and innovation faith and form, reaffirms that art, when made accessible to all, fulfills its highest purpose: to connect hearts through beauty beyond sight.

1.3. **Designing the Sarajevo Exhibition; Creation, Cosmos and the Language of Form**

The tactile exhibition Tactile Tazhib and Calligraphy: Inclusive Exhibition of Islamic Art for Blind and Visually Impaired Audiences is being prepared for the forthcoming Museum of Islamic Culture and Art in Sarajevo as an innovative model of inclusive museology rooted in Islamic aesthetics. The curatorial framework centers the idea of creation, the transformation of divine energy into material beauty. The exhibition thematically explores the universe as a manifestation of divine will, reflecting the Islamic concept of creation ex nihilo - God bringing existence from nothingness.

In this context, the exhibition's tactile artworks function as a metaphor of cosmic order: rhythmic, structured and radiant, yet experienced through the intimate sense of touch. This idea is inspired by Jalal al-Din Rumi's poem "Dance of Atoms", which envisions the universe as a continuous dance of divine love. Rumi's poetic metaphor resonates with the tactile curatorial approach: every raised line, every embossed form, becomes a vibration of divine motion, allowing the visitor to feel creation as dynamic and sacred.

The selected calligraphic works predominantly revolve around spiritually significant words such as love, patience, light, and Qur'anic verses. The aim is to show that the beauty of divine order can be touched, heard and felt beyond the limits of sight.

The central challenge in designing the Sarajevo exhibition lies in translating the luminous qualities of tazhib, traditionally dependent on color, reflection and light into tactile form. To achieve this the artist employs a range of materials including relief paste, layered compositions and metallic pigments. The tazhib elements, delicate floral ornaments, are expressed as textured motifs.

The tactile reproductions of calligraphy are made of wood or with relief paste. Within the tactile exhibition, calligraphy becomes both a visual and haptic language through which visitors engage with the sacred dimensions of Islamic art.

Figure 1
Arabic Calligraphy Composition, Surah Al-Ikhlas

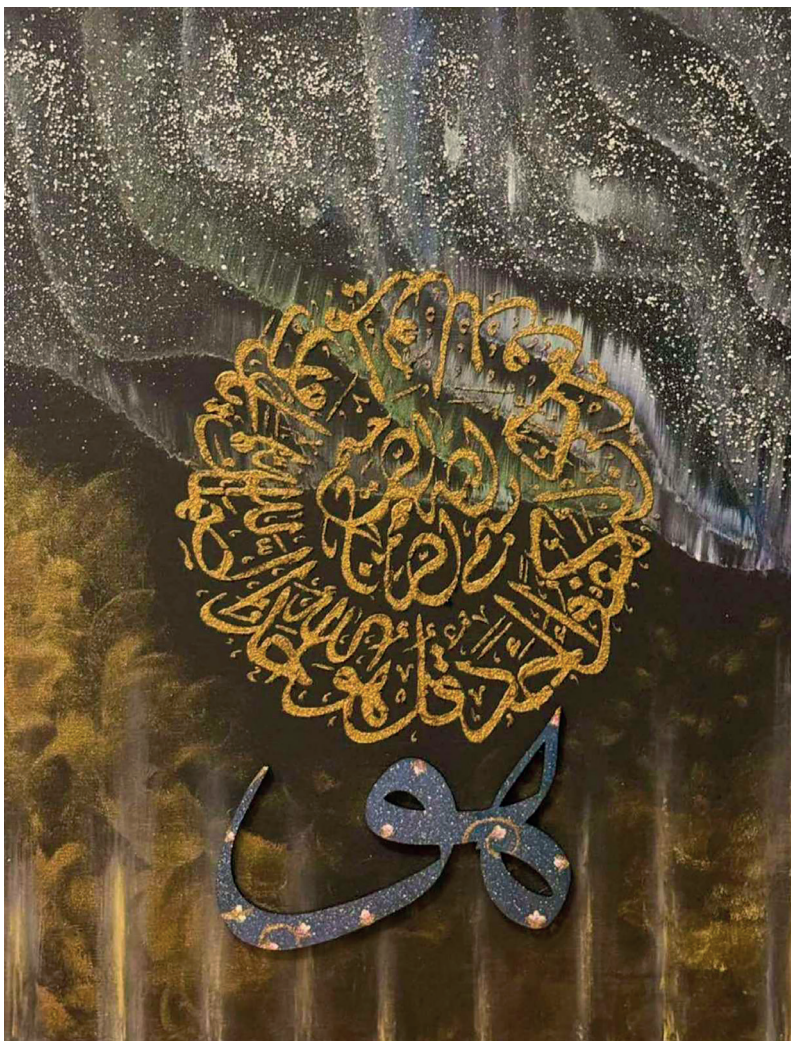
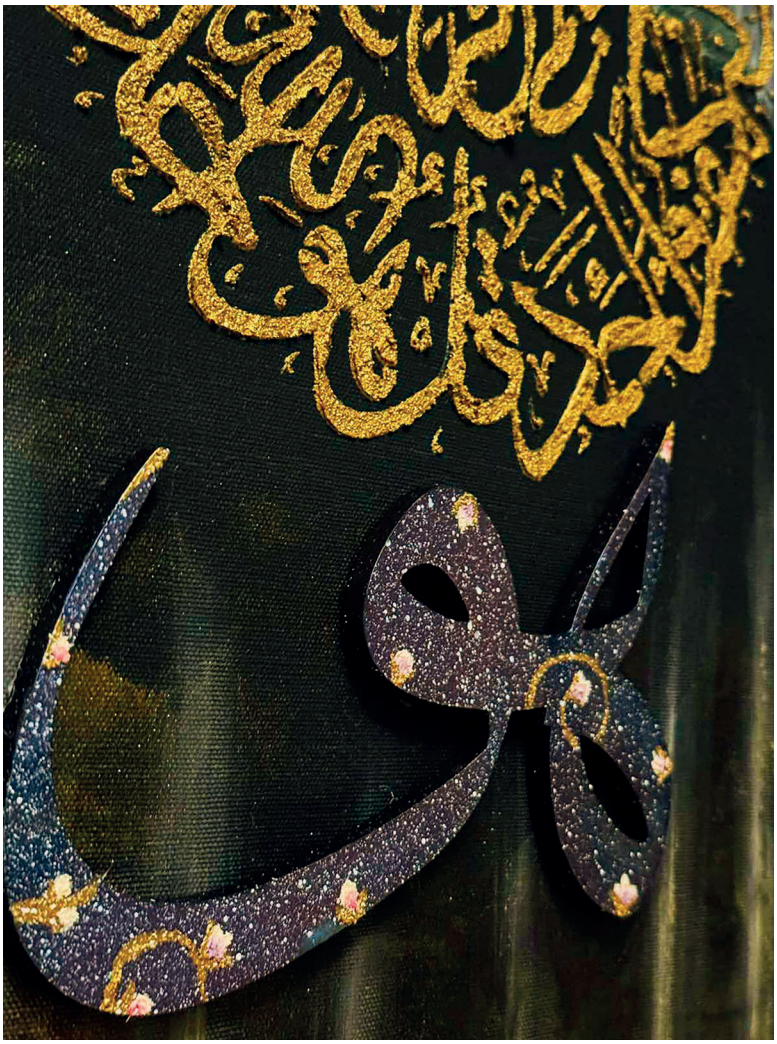


Figure 2
The Use of Relief Paste Creates a Tactile Dimension, Allowing the Calligraphic forms to be Physically Perceived



Figure 3
Tazhib Composition Created on Wood Using Relief Paste



As Candlin (2010) argues, tactile engagement in art interpretation fosters an intimate relationship between the artwork and the visitor, rooted in presence and participation. Burckhardt (1976) observed that Islamic art embodies the unity of spirit and matter, each form serving as a reflection of the divine order. By rendering these forms tactile, the exhibition invites audiences to encounter this unity through their fingertips restoring to art the immediacy of embodied experience.

Sound plays a vital role in reinforcing the tactile and spatial dimensions of the Sarajevo exhibition. A curated soundscape accompanies the tactile artworks, it is a combination of ambient tones, natural sounds and Qur'anic recitations. Rather than serving merely as a background, the auditory layer is designed to evoke emotion and frame the tactile experience in spiritual rhythm, echoing recent studies on multisensory museum design that highlight sound as a central dimension of authenticity and inclusivity (Amin et al., 2025).

A defining feature of the Sarajevo exhibition is its participatory approach. The project is being developed in collaboration with local disability organizations and individuals with varying degrees of visual impairment, who contribute their insights to ensure the exhibition's inclusivity. For example, early prototypes of the tactile panels were tested with visually impaired individuals, who actively participated in selecting the optimal relief paste by comparing different textures and thicknesses. Their feedback directly led to the refinement of relief depths (approximately 2 mm - 3 mm for maximum haptic legibility) and the integration of tactile guiding lines that connect different calligraphic compositions into a unified tactile experience.

This participatory model follows the inclusive museology principles advocated by Simon (2010), Sandell (2007), and Fotiadi (2024), emphasizing that accessibility should be co-produced rather than externally imposed.

The ethical dimension of inclusive curatorship extends beyond accessibility to encompass respect, representation, and dignity. In curating an exhibition for blind and visually impaired audiences, the aim is not to evoke difference, but to affirm aesthetic equality. Tactile exhibition avoids any didactic framing, rather it presents tactile engagement as a legitimate and profound mode of experiencing beauty (Sandell, 2007).

The Tactile Tazhib and Calligraphy exhibition aims to achieve three interconnected outcomes; sensory inclusion, cultural reinterpretation, and emotional engagement. For blind and visually impaired audiences the tactile artworks provide unprecedented access to Islamic aesthetic heritage, enabling direct engagement with its spiritual and material dimensions. For sighted visitors, the exhibition offers a new way of perceiving Islamic art - through touch and sound, inviting curiosity and reflection on the universality of beauty.

Academically and institutionally the exhibition contributes to the discourse on inclusive museology in Southeast Europe.

Figure 4
Tactile Calligraphy Consultation Session. Photo: S. Pandžić, 2025.



It offers a replicable model for other cultural institutions in the Balkans seeking to integrate accessibility into heritage interpretation. More broadly, it reinforces the philosophical premise that art's essence lies not in vision alone but in experience, an embodied awareness of divine harmony.

1.4. **Future Practice and Inclusive Curatorship: Learning through Tactile Exhibitions**

The Tactile Tazhib and Calligraphy exhibition represents a pioneering curatorial and artistic initiative that bridges Islamic artistic tradition, inclusive design, and multisensory museum practice. Grounded in the theological and aesthetic principles of tawhid the unity of all creation, it proposes a reimagining of Islamic art as an inclusive and participatory medium. By translating the visual richness of tazhib and calligraphy into tactile, auditory, and spatial forms, the project extends the sensory boundaries of art experience.

Through participatory collaboration with visually impaired communities, the exhibition exemplifies the ethical potential of inclusive museology. Rather than treating accessibility as an external adaptation, the project embeds it into the conceptual and material structure of the exhibition. In doing so, it transforms accessibility into a creative and interpretative strategy, a new language of inclusion rooted in empathy, equality, and shared perception.

Situated within the forthcoming Museum of Islamic Culture and Art in Sarajevo, the Tactile Tazhib and Calligraphy exhibition holds both local and international relevance. Locally, it represents one of the first systematic attempts in Bosnia and Herzegovina to integrate universal design principles into Islamic heritage interpretation. The museum's broader mission, to celebrate and reinterpret Islamic art in a contemporary context, finds in this project a tangible example of how accessibility can coexist with artistic sophistication.

Thematically, the exhibition contributes to the cultural narrative of Sarajevo as a city of spiritual coexistence and artistic resilience. By centering blind and visually impaired visitors as active participants it continues the city's historical tradition of pluralism and shared cultural experience. Internationally, the project aligns with global discourses on inclusive museology.

Ensuring the sustainability of the Tactile Tazhib and Calligraphy project is essential for its long-term impact. The exhibition is designed with modular and durable materials, and portable display units , that allow for reinstallation in various contexts. This modularity positions the exhibition as both a potential permanent feature within the Museum of Islamic Culture and Art in Sarajevo and as a traveling exhibition capable of reaching other cultural institutions across the Balkans and broader Islamic world.

Such mobility extends the exhibition's educational reach, enabling collaborations with schools, community centers, and disability organizations throughout the region. The tactile panels and accompanying soundscapes could form part of mobile workshops, fostering dialogue about accessibility, creativity and Islamic aesthetics. In this sense, the exhibition functions not only as a museum event but as a platform for inclusive pedagogy, a living educational

resource that continues to evolve through interaction and participation. This approach aligns with recent findings from the Balkan Museum Network and the Network of European Museum Organisations (NEMO), which emphasize that inclusive practices must extend beyond physical access to embrace social integration, co-creation and multisensory engagement (Balkan Museum Network, 2021; NEMO, 2022). Mobile and participatory formats such as tactile exhibitions and sound-enhanced workshops are increasingly recognized as effective tools for reaching diverse audiences and fostering cultural dialogue (Balkan Museum Network, 2021).

From an institutional perspective, the project offers a sustainable model of curation that integrates inclusivity into the museum's structural and ethical identity. The experience gained through this exhibition can inform future curatorial strategies, influencing exhibition design and educational programming.

On a broader disciplinary level, the Sarajevo exhibition contributes to the evolving discourse on inclusive museology and sensory aesthetics. It challenges the traditional hierarchy of the senses, affirming touch, hearing, and spatial awareness as equally legitimate channels of aesthetic experience. As Vivar-Cordero (2023) notes the museum of the future must engage the "full sensorium" of its audiences to cultivate empathy and understanding. The Tactile Tazhib and Calligraphy project exemplifies this vision within the specific context of Islamic art, revealing that multisensory engagement is not a modern invention but deeply aligned with Islamic aesthetic traditions, where beauty manifests through all senses in harmony.

The project also demonstrates that inclusivity is inherently creative. By working within material constraints, translating gold illumination into texture, calligraphy into relief the artist redefines the expressive potential of Islamic art forms. This process underscores the notion that accessibility is not a compromise but an expansion of artistic language. Inclusive design thus becomes an aesthetic principle in itself: an art of empathy that invites diverse audiences into shared contemplation. As Candlin (2010) argues, tactile engagement opens new aesthetic horizons rather than diminishing artistic value, while Sandell (2007) emphasizes that inclusive curatorship must be understood as a creative and ethical practice. Recent studies in multisensory museology further highlight that accessibility can generate innovative forms of artistic expression and audience participation (Fotiadi, 2024; Luo et al., 2024). Within this framework, the Tactile Tazhib and Calligraphy project exemplifies how Islamic art can be reimagined through inclusive aesthetics, affirming that creativity and accessibility are mutually reinforcing. In doing so, it offers a model for future museum practices, showing how inclusivity can serve not only as an ethical imperative but also as a catalyst for artistic innovation and cultural renewal.

2. **Conclusion**

At its core, the Tactile Tazhib and Calligraphy exhibition is an invitation to feel, to listen and to remember. It invites visitors to rediscover the essence of Islamic art not as a visual spectacle but as a spiritual encounter that transcends the limits of perception. The tactile patterns the resonant sounds, and the sacred words together construct a space of unity where the senses converge into remembrance of the Divine.

This paper has explored how Islamic illumination and calligraphy traditionally centered on sight can be reconceptualized through touch and sound without compromising their metaphysical intent. The Sarajevo exhibition thus challenges ocular-centric paradigms of art appreciation, proposing instead a holistic approach that embraces embodied knowledge. The project asserts that art in Islamic culture is not a static object but a spiritual process, an ongoing act of creation through which the Divine becomes perceptible in form, texture and rhythm.

Ultimately, this exhibition stands as both an artistic experiment and a moral proposition; that the beauty of creation is meant to be shared by all. In the upcoming Museum of Islamic Culture and Art in Sarajevo, envisioned as a museum that listens as much as it shows, art will no longer belong to the eyes alone but to the totality of human experience. It will embody a living dialogue between tradition and innovation, offering inclusive pathways into heritage and affirming that the sacred can be approached through many senses. In this way, the project not only redefines accessibility but also expands the very language of art, reminding us that creativity flourishes most when it is open, generous and shared across communities.

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Selma Pandžić studied Oriental Philology at the Faculty of Philosophy in Sarajevo and completed her Master's degree in Art Studies at the University of Tehran. She has extensive professional experience in media, including work as a TV presenter. Over the years, she has contributed to numerous projects and programs related to art and culture, combining academic expertise with creative practice. As an educator, she teaches tazhib (Islamic illumination) and has organized workshops for children with special needs, emphasizing inclusive approaches to artistic education. She has also participated in several collaborative exhibitions dedicated to tazhib, highlighting the spiritual and aesthetic dimensions of Islamic art. Currently, she works as a curator-in-training at the forthcoming Museum of Islamic Culture and Art in Sarajevo, contributing to the development of inclusive and multisensory exhibition models that reinterpret Islamic heritage for diverse audiences.

THE VEHBİ KOÇ ANKARA STUDIES RESEARCH CENTER'S (VEKAM) CULTURAL HERITAGE STUDIES FOR CHILDREN (0-18) WORKSHOP SERIES

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Abstract

In recent years, there has been a noticeable increase in cultural heritage education related initiatives for children in Türkiye. To create a sustainable way of cultural heritage protection and education for children and teachers, activities in this field have expanded through associations, foundations, NGOs, governmental organizations, public institutions, and academic circles. These initiatives, implemented through books, documentaries, workshops, on-site and museum education programs play a crucial role in supporting sustainable cultural heritage education and intergenerational transmission. While similar initiatives are well established abroad, both within and outside formal education settings using advanced methodologies, this field is still in its early stages of development in Türkiye. Although such efforts have gained visibility through national and local initiatives, cultural heritage projects often remain limited in scope and are carried out independently without being integrated into shared platforms, despite growing awareness in the field. Building on these limitations, Koç Üniversitesi Vehbi Koç Ankara Studies Research Center (VEKAM) initiated a workshop series designed to promote sustainable cultural heritage education and to support professionals working with children and young people in the field of cultural heritage in Türkiye in 2019. The Cultural Heritage Studies for Children (0-18) workshops present exemplary practices from Türkiye and around the world, creating an academic platform where professionals from national and international contexts exchange experiences and ideas, engage in hands-on activities, and explore innovative approaches. One of the objectives of these workshops is to create a comprehensive platform, where knowledge and projects are shared and enhance collaborations in the field of cultural heritage studies for children in Türkiye and around the globe. This is supported with the publication series of the presented papers of each workshop. These publications aim to establish an outstanding reference resource that bridge theory and practice. The workshop series addresses evolving needs in the field of cultural heritage by focusing on a range of themes, spanning from general approaches to heritage education and teacher-centered strategies to the use of visual media such as books and photography, digital applications, as well as place-based learning methodologies. This paper will examine the workshop series of VEKAM with a particular focus on its aims, needs in the field of heritage studies for children, inclusive features, highlighting how it serves as a model for integrating accessibility and participation into cultural heritage education.

Keywords

Children, *Cultural Heritage Education*, *Accessibility*, *Inclusion*, *Sustainability*, *Türkiye*

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Culture constitutes a foundational concept that shapes how individuals perceive the world, construct meaning, and engage in social relations. Tylor's (1871) definition of culture as "that complex whole which includes knowledge, belief, art, and habits acquired by individual as a member of society" illustrates the broad scope of the field from its earliest articulation. Geertz (1973) defined culture as "the webs of significance man himself has spun," thereby approaching it as an interpretive system, whereas Monaghan and Just (2000) described culture as the totality of knowledge and practices that individuals employ to sustain their lives. These definitions collectively indicate that culture is a dynamic construct, continuously reproduced and permeating all dimensions of social life.

In this context, cultural heritage is regarded as a comprehensive entity that transmits the material and immaterial values, ways of life, collective memory, and processes of shared meaning-making of societies across generations.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) defines cultural heritage not merely as a legacy from the past to be preserved, but also as a fundamental component of social identity, cultural diversity, and creative expression. The 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO, 1972) conceptualizes tangible cultural heritage as material elements—such as monuments, architectural structures, archaeological sites, historic urban fabrics, and advanced artisanal products—that embody aesthetic, scientific, historical, and symbolic value. The same convention expands the notion of natural heritage to encompass areas of universal significance for humanity, including biodiversity, geological formations, ecosystems, and natural landscapes.

Conversely, the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO, 2003) defines intangible cultural heritage as a dynamic ensemble of practices transmitted across generations, including oral traditions, performing arts, rituals, social practices, handicrafts, and cultural expressions that sustain collective memory and ways of

life. UNESCO's policies on cultural diversity and the protection of cultural expressions (UNESCO, 2005) further position cultural heritage as a domain of learning that supports the development of identity and belonging, strengthens cultural continuity, and fosters cultural participation.

The holistic structure of cultural heritage—comprising tangible, intangible, and natural components—necessitates its protection at the international level as a representation of humanity's shared values. Accordingly, cultural heritage education must transcend the mere transmission of traces from the past, encouraging children to recognize cultural diversity, cultivate creative thinking skills, and develop intercultural understanding. In summary, while the 1972 Convention introduced a universal dimension of protection to cultural heritage, the 2003 Convention on Intangible Cultural Heritage added dynamic aspects such as social practices, oral traditions, and rituals. The 2005 Convention on the Protection and Promotion of the Diversity of Cultural Expressions, in turn, linked cultural heritage to contemporary creative processes, thereby reinforcing the relationship between cultural continuity and cultural diversity.

From a rights-based perspective, cultural rights constitute one of the fundamental categories explicitly defined in international human rights instruments. Article 15 of the International Covenant on Economic, Social and Cultural Rights affirms that everyone has the right to participate in cultural life, to access cultural heritage, and to benefit from scientific progress (United Nations, 1966). This provision demonstrates that cultural heritage education is not merely a pedagogical endeavor but also a rights-based public obligation. For children, this framework is even broader. Articles 29(c), 30, and 31 of the Convention on the Rights of the Child guarantee children's rights to preserve their own cultural identity, to become acquainted with diverse cultures, to participate in cultural and artistic life, and to benefit from means of creative expression (United Nations, 1989). These provisions establish the legal foundation for children's participation in cultural heritage not only as observers but as active subjects.

Recent scholarship emphasizes that cultural heritage education is most effective when children are positioned not as passive recipients of information but as active participants in meaning-making processes (Hooper-Greenhill, 2007; Simon, 2010). Museum education literature similarly highlights the importance of participatory, object-based, and experience-centered learning environments that encourage inquiry, creativity, and critical reflection (Hein, 1998; Falk & Dierking, 2013). Furthermore, accessibility and inclusion have become central concerns in contemporary heritage education, requiring institutions to design programs that accommodate diverse learning needs and ensure equitable participation (Sandell, 2007; UNESCO, 2015). Within this framework, cultural heritage education is increasingly understood as a field that combines heritage interpretation, children's participation, lifelong learning, and social inclusion.

Within this rights-based and holistic theoretical framework, one of the initiatives developed in Türkiye in the field of cultural heritage education for children is the series of workshops launched by the Koç Üniversitesi Vehbi Koç Ankara Studies Research Center (VEKAM).

Thus VEKAM workshop series should be understood not only as a professional development initiative but also as a platform that promotes participatory, accessible, and sustainable approaches among professionals engaged in heritage education.

Cultural heritage education related initiatives for children have gained increasing visibility in Türkiye. Activities in this field have expanded through the efforts of associations, foundations, NGO's, governmental organizations, public institutions, and academic circles. These initiatives play a crucial role in supporting sustainable cultural heritage education and ensuring the intergenerational transmission of heritage values. While similar initiatives abroad are well established and integrated into both formal and informal education systems using advanced methodologies, this field in Türkiye remains in its formative stage. Although national and local projects have contributed to raise awareness, cultural heritage education initiatives often remain fragmented, limited in scope, and lack integration into shared platforms. This gap underscores the need for systematic, collaborative, and research-based approaches to cultural heritage education in Türkiye.

Responding to this need, Koç Üniversitesi Vehbi Koç Ankara Studies Research Center (VEKAM) initiated a workshop series in 2019 aimed at promoting sustainable cultural heritage education and supporting professionals working with children and young people in this domain. The Cultural Heritage Studies for Children (0-18) workshops were designed as an academic platform for knowledge exchange, interdisciplinary dialogue, and capacity building.

1. **Institutional Case Study: The VEKAM Workshop Series**

This paper aims to present the six workshops organized between 2019 and 2025 within a holistic framework of cultural rights, access to cultural heritage, participation, and inclusivity, and to demonstrate how the project offers a model that contributes to the development of cultural heritage education in Türkiye. While the first workshop was a general introduction to the topic of cultural heritage education for children, the following five workshops were conducted on specific topics.

The objectives and research questions for these workshop series are:

a. What is the scope, content, characteristics, and methodological approach of studies conducted in Türkiye and internationally in the field of cultural heritage education for children?

b. To what extend is there a need for a common platform that brings together, makes visible and encourages collaboration on cultural heritage education projects for children?

c. Based on cultural heritage education projects developed for children in Türkiye and internationally, what are the requirements for producing systematic and accessible resource publications for professionals working in the field?

d. What factors hinder the effective implementation of cultural heritage education in Türkiye, and what role does teacher/professional capacity play among these factors?

The discussion in this article draws upon primary data sources including workshop programs and reports (2019–2025), hands-on session descriptions, published proceedings and participant lists. The study investigates the evolution of thematic structures across years, participant and speaker numbers, the degree of national and international representation, institutional diversity, and the distribution of presentations and hands-on sessions within program. Through thematic analysis, the principal theme of each workshop (e.g., early childhood education, teacher training, digitalization, accessibility) serves as the organizing framework for categorizing presentation and hands-on session titles. Furthermore, a comparative analysis is conducted to assess variations in participation modalities (in person, online, hybrid), levels of local versus international contribution, and the adoption of traditional versus digital instructional tools. In the next section the workshops and their themes will be discussed.

The Workshop on Cultural Heritage Studies for Children has been designed as a platform for learning and knowledge exchange aimed at advancing cultural heritage education through a child-centered, participatory, and interdisciplinary approach. The methodological framework of the workshop is grounded in the principles of experiential learning, practice-based education, interdisciplinary collaboration, and the sharing of good practices. The workshop program seeks to create a multi-voiced environment for knowledge production by bringing together initiatives carried out by museums, universities, non-governmental organizations, local authorities, heritage sites, and independent researchers. Through presentations, panel sessions, hands-on workshops, and discussion sessions, participants are encouraged not only to acquire knowledge but also to share their experiences and collaboratively develop solutions to common challenges. One of the core components of the methodology is the examination of good practice examples. Projects in cultural heritage education for children are discussed through diverse approaches, including participatory methods, creative drama, gamification, storytelling, digital technologies, arts-based learning, and local heritage initiatives. In this way, the workshop aims to make visible a range of methods and tools that participants can adapt to their own professional contexts. The workshop also adopts a community of practice approach. Experts, educators, museum professionals, academics, and cultural managers from different disciplines are brought together within a shared learning network that supports knowledge exchange and professional collaboration. This process contributes to the development of a sustainable professional network in the field of cultural heritage education. The evaluation process of the workshop is conducted through participant feedback, session assessments, and the analysis of workshop outcomes. The data collected are used to improve the content and methodology of future workshops, ensuring that the program evolves through a process of continuous improvement. In this respect, the workshop can be considered a participatory learning model that promotes knowledge sharing, capacity building, and the dissemination of innovative educational approaches in the field of cultural heritage education.

1.1. **Cultural Heritage Studies for Children (0-18) Workshop I, (14–15 November 2019)**

The first event in the series *"Cultural Heritage Studies for Children (0-18) Workshops"* was held in 2019 and served as a foundational reference point for defining the conceptual, methodological, and thematic orientations of the subsequent workshops. Shaped by theoretical and practical contributions from experts across diverse disciplines—including child development and education, educational sciences, media and visual arts, archaeology, architecture, psychology, literature art history, and museology—this inaugural workshop demonstrated that cultural heritage education can be approached through a child-centered and interdisciplinary perspective.

Figure 1
Cultural Heritage Studies for Children (0-18) Workshop VI: Accessibility in Education for Children with Special Needs, Seminar Session, 2025



The program has brought together a broad spectrum of expertise, ranging from early childhood education to literature, and from archaeology to museum publications. This diversity highlighted that cultural heritage education for children is not merely a cognitive endeavor but a process that foregrounds aesthetic, sensory, experiential, and creative dimensions. Presentations by institutions such as the Acropolis Museum and the LVR-Xanten Archaeological Park enabled comparative analysis of applied models of cultural heritage education across Europe. These sessions emphasized the exploration of innovative teaching resources by participants and marked the role and contribution of educational materials—such as museum kits—in cultural heritage education. In Lebanon, the project *Syria in My Mind*, developed by the Biladi Association with the support of UNICEF and the European Union, emerged as a notable best-practice initiative. Designed to help Syrian children regain

a sense of identity and belonging lost due to war, the project introduces Syria's rich cultural heritage through games, songs, and interactive activities, aiming to foster a positive image of their homeland. By framing heritage as a fundamental right, this initiative stands out as an exemplary model. Furthermore, the project offers a compelling case for interrogating cultural heritage through the concepts of homeland, belonging, and migration. This workshop marked a strong beginning for the series, both in terms of content diversity and its role in establishing an academic foundation. Many of the core elements that shaped the themes of subsequent years emerged during this initial event (Fig. 1).

1.2. **Cultural Heritage Studies for Children (0-18) Workshop II: Teacher Based Practices, (29–30 April 2021)**

Due to the global COVID-19 pandemic, the second workshop was organized in an online format, with a thematic focus on teacher-based practices. Although keynote speakers were primarily based in Türkiye, participation from diverse national and international contexts demonstrated the role of virtual platforms in enhancing accessibility.

The program addressed the role of language in children's conceptual development and evaluated educational models within the framework of tangible and intangible cultural heritage definitions. The workshop, which focused on teachers, examined their role in cultural heritage education, classroom practices, and processes of curriculum integration.

Studies on out-of-school learning environments highlighted museum education and its applications, emphasizing the significance of space in children's learning, place-based education, and the connection to local culture. Participatory models in community-based archaeology, where children actively engage, were also introduced. Within this framework, the presentation entitled *From Our Cultural and Natural Heritage to Universal Values* addressed scientific, literary, artistic, technological, and industrial programs centered on the 15-million-year-old Paşalar Fossil Site. These programs were discussed in relation to an educational model designed to enable children to recognize local heritage values and develop the awareness and skills necessary to connect these values with a universal perspective. The workshop also showcased educational programs implemented at the Küçükyalı Archaeological Park. Opening the site to visitors during ongoing excavation processes allowed children's curiosity about archaeology and cave spaces to be supported through educational activities. Within the program, presentations conveying fundamental concepts of cultural heritage were followed by on-site observations; subsequently, participants engaged in hands-on workshops where children directly experienced archaeological excavation processes. This workshop illustrated the critical role of teachers in cultural heritage education and demonstrated how the online format eliminated geographical boundaries, fostering a more inclusive interaction at both national and international levels. Moreover, this process revealed that cultural heritage education is not confined to physical spaces; it can maintain its pedagogical integrity within digital environments.

1.3. **Cultural Heritage Studies for Children (0-18) Workshop III: Books, Comics, and Photographs (2–3 November 2022)**

Figure 2

A piece of work produced in the picture book workshop titled "Creating Narratives through Collage and Photographs" conducted as part of the Cultural Heritage Studies for Children (0–18) Workshop III: Book, Comics and Photograph, 2022.



The third workshop, organized in hybrid format, focused on creative production and visual narratives, demonstrating that cultural heritage education extends beyond museums, cultural institutions, or historical sites to encompass mediums such as children's literature, comics, digital photography, and storytelling. Through examples drawn from children's books, the program explored strategies for making cultural heritage accessible to young audiences, including simplification, visualization, and narrative development. The use of comics to convey historical events and figures was highlighted as a means of fostering curiosity among children, while photography was emphasized as an active learning tool for enhancing children's perception of their surroundings. The Museum of Anatolian Civilizations, whose collection spans a remarkably broad chronological range, has provided a significant contribution to the literature through a 16 volume publication series dedicated to the civilizations that inhabited Anatolia from the Paleolithic Age to the present. The integration of artifact visuals, maps, timelines, along with puzzles, games, and coloring activities, narrated through a character named Güneş and a child protagonist, offers a compelling example of how cultural heritage can be communicated to children through visually rich and narrative-based methods. Similarly, a project developed by the Louvre Museum, based on the assumption that young people encounter art more frequently in public spaces than in museums, aimed to connect street artists with youth through reinterpretations of the Louvre's masterpieces. This approach can be regarded as a striking example that demonstrates the transformative role of visual narratives and contemporary forms of expression in the transmission of cultural heritage. Case studies from Iraq and Mongolia illustrated the necessity of addressing cultural heritage within political, social, and educational contexts. A presentation from Egypt showcased individual efforts to produce quality educational materials in response to the scarcity of publications on cultural heritage, while a critical review of history and geography textbooks in Italian schools offered comparative insights into educational resources across continents. These contributions enriched the program by situating cultural heritage education within a global framework of material development process, challenges and critique.

The workshop highlighted the power of creative industries in transmitting cultural heritage to children, advocating for pedagogical models grounded in storytelling and visual thinking rather than passive information transfer. Topics such as digital imaging and narrative design introduced during this event served as precursors to themes explored in subsequent workshops (Fig. 2, 3).

Figure 3
A piece of work produced in the workshop titled Developing Children's Books for Museums: The VEKAM Orchard House Case conducted as part of the Cultural Heritage Studies for Children (0-18) Workshop I, 2019



1.4. **Cultural Heritage Studies for Children (0-18) Workshop IV: Field,Museum, and Natural Heritage Educational Practices (16–17 November 2023)**

The fourth workshop marked the return to an in-person format following the global pandemic and centered on experience-based learning. A defining feature of this event was its emphasis on the transformative power of space in education. With contributions from museums in Türkiye and abroad, the program showcased museum education initiatives incorporating object-based learning and multisensory experience design.

Sessions addressed outdoor education, on-site learning methods, experiential pedagogical approaches, and museum-based practices, highlighting the impact of children's participation in workshop activities on archaeological processes, particularly in fostering awareness and conservation consciousness, were discussed. Intergenerational transmission of intangible cultural heritage was explored through experience-driven examples from national and international

museums, contributing to discussions on cultural diversity from local to global perspectives. The Ankara Museum of Intangible Cultural Heritage and Beypazarı Living Village stand out as exemplary cases at both local and national levels, showcasing similar practices aimed at intergenerational transmission of intangible cultural heritage through lived experience. These examples have made visible how cultural continuity is sustained through everyday life practices, rituals, and the transfer of traditional knowledge. On the other hand, when considering the practices held at the Kyushu National Museum in Japan, which focused on historical royal burial rituals, it becomes evident that the concept of intangible cultural heritage encompasses an exceptionally broad and multi-layered scope across different cultural contexts.

Figure 4

A general view from the workshop session titled Become an Archaeologist, Become an Ancient Person: Creating Workshops to Foster Appreciation of Cultural Heritage, conducted as part of the Cultural Heritage Studies for Children (0-18) Workshop IV: Field, Museum and Natural Heritage Educational Practices, 2023.



Another thematic focus of the workshop addressed educational activities within natural World heritage sites. Drawing on examples from diverse locations in Türkiye and abroad, the discussion highlighted innovative approaches to biodiversity education in authentic natural settings. The Wadden Sea, jointly managed by the governments of the Netherlands, Denmark, and Germany, was inscribed on the UNESCO World Heritage List in 2009 as a site of "Outstanding Universal Value". Through its conservation practices, it provided a significant contribution to the workshop on a global scale. At the Wadden Sea UNESCO World Heritage Center, visitors are offered educational and immersive experiences designed to preserve the region's natural processes, with these activities structured

around the principles of sustainable environmental education. Similarly, bird migration research conducted at the Eymir Ornithology Research Center in Ankara stands out as a local initiative where scientific knowledge is shared not only within academic circles but also with visitors of all ages, particularly children and young people. These examples marked the critical relationship between scientific research, education, and public awareness in the conservation of natural heritage.

These initiatives reinforced not only the pedagogical value of nature-based learning but also the understanding that historical heritage sites are entangled with nature, and that they need to be preserved as a whole. The most significant outcome of this workshop was the recognition that holistic cultural heritage education can only be achieved by integrating tangible and intangible values with environmental and natural contexts (Fig. 4, 5).

Figure 5
Bird Watching workshop session conducted as part of the Cultural Heritage Studies for Children (0-18) Workshop IV: Field, Museum and Natural Heritage Educational Practices, 2023.



1.5. **Cultural Heritage Studies for Children (0-18) Workshop V: Digital Practices (7–8 November 2024)**

The fifth workshop focused on the digital transformation of cultural heritage education. Discussions examined how technology redefines the interaction between children and cultural heritage through tools such as three-dimensional imaging and modeling, which facilitate understanding of object–space relationships, and augmented reality (AR) applications that enrich cultural heritage layers.

Digital archiving was addressed as a means of improving accessibility and ensuring the preservation of cultural heritage materials. The program also evaluated the contribution of virtual exhibitions and interactive platforms to the accessibility of digital museology and cultural production. Comparative insights were gained through presentations by museums from Türkiye and abroad, which shared their respective digitalization processes, enabling the identification of monitoring strategies and new roadmaps. M9 Museum, recognized as one of Italy's first fully multimedia-oriented museums, distinguishes itself from others through an exhibition system designed with limited physical artifacts yet enriched by extensive digital content, as well as children's workshops characterized by a high degree of digital diversity. The exhibit at M9 addresses the generations of grandparents, parents and children and their ancestors through consecutive and interactive digital exhibitions about the history and daily life in Italy.

Through these overarching applications, the goal is to create sustainable heritage preservation and invite several generations of families to the museum. In the exhibition prepared within the scope of the Juliopolis Project—carried out in collaboration with the Museum of Anatolian Civilizations, VEKAM, and Hacettepe Üniversitesi —technologies such as facial reconstruction studies, holographic applications, levitation devices, three-dimensional anaglyph photographs, 3D prints, mapping techniques, and a virtual tour of the burial chamber have rendered visible the contemporary possibilities and limitations of digital cultural production. These examples demonstrate that digital technologies are the future and bring abstract heritage remains alive. They have an increasingly decisive role in the presentation and education of cultural heritage. This workshop highlighted the emergence of a new identity for cultural heritage education in the digital age and underscored the strong potential of technology as an educational tool (Fig. 6).

Figure 6
Workshop session on Extended Reality Applications for Cultural Heritage–Focused Learning, conducted as part of the Cultural Heritage Studies for Children (0-18) Workshop VI: Digital Practices, 2024



1.6. **Cultural Heritage Studies for Children (0-18) Workshop VI: Accessibility in Education for Children with Special Needs (13–14 November 2025)**

The sixth workshop in the series placed the rights-based dimension of cultural heritage education at its core. Discussions explored cultural mediation for deaf and hard-of-hearing children through the use of sign language and silent narrative techniques. Similarly, tactile materials—such as three-dimensional objects, relief prints, and tactile maps—along with verbal descriptions were examined as strategies for cultural mediation for visually impaired children. The program emphasized the role of empathy-driven museum experiences in preventing exclusion and enhancing accessibility and inclusivity. It has been demonstrated through experience that, without sufficient knowledge of the life cultures and vocabularies of individuals who are congenitally deaf or blind, it is not possible to achieve effective communication through audio description or sign language.

Sessions focusing on neurodiversity addressed practices for designing and implementing educational activities tailored to attention differences and sensory sensitivities. Speakers from Russia, Portugal, and Taiwan presented examples of initiatives aimed at expanding inclusivity for groups with special educational needs.

This workshop framed accessibility in cultural heritage education not only as a physical requirement but also as a pedagogical and digital right. By incorporating a wide range of special needs, it drew attention to the various dimensions of accessibility and the boundaries of inclusivity (Fig. 7).

Figure 7
Workshop session on Bridging Deaf Culture and the Concepts of Art, conducted as part of the Cultural Heritage Studies for Children (0-18) Workshop VI: Accessibility in Education for Children with Special Needs, 2025



1.7. **Hands-On Sessions: An Integrated Pedagogical Framework (2019–2025)**

The workshop series was conceived as an interactive platform rather than a conventional symposium characterized by passive attendance. Its design emphasized active engagement among presenters and participants, which was facilitated through the inclusion of hands-on sessions. With the exception of Workshop II, conducted online due to pandemic-related constraints, all sessions were held at VEKAM. Presenters were instructed to develop activities centered on the VEKAM archives or collections to ensure thematic continuity across the series and provide intellectual stimulus for participants and leverage the spatial and collection resources available at VEKAM.

The hands-on sessions organized as part of the *Cultural Heritage Workshops for Children* (2019–2025) established a comprehensive pedagogical framework that integrates interdisciplinary, experiential, creative, digital, and inclusive dimensions of cultural heritage education. Designed for professionals working with children, these sessions were conceived as applied learning environments aimed at reconstructing the child heritage relationship through experience, production, interpretation, and active participation rather than passive knowledge acquisition. This structure also provided a valuable platform for participants to engage directly with presenters, interact with their approaches, and explore their projects.

Figure 8
A piece of work from the Drawing Inspiration from Classic Works of Heritage to Update Them workshop session conducted as part of the Cultural Heritage Studies for Children (0-18) Workshop III: Book, Comics and Photograph, 2022



The overarching purpose was to embed experiential, creative, digital, and inclusive strategies into heritage education, positioning children as active interpreters and producers of cultural knowledge. The sessions focused on fostering sensory interaction and object-based inquiry; strengthening aesthetic, critical, and creative thinking through literary and visual narratives; advancing digital literacy through extended reality (XR), augmented reality (AR), and 3D digitization; and institutionalizing accessibility as a pedagogical principle to ensure equitable participation for children with diverse abilities and learning profiles.

Methodologically, the program employed site-based explorations and object centered tasks, such as role play, reconstruction of past lifeways, and historical script writing to transform abstract knowledge into embodied experience. Moreover, the program employed creative narrative-making through poetry, illustrated books, collage, photography, graphic novels, street art, and museum book design to enable reinterpretation of heritage. Furthermore, it fostered digital augmentation through XR/AR, 3D workflows, and anaglyph imaging to dismantle spatial and temporal barriers and support interactive, game-informed learning. Accessibility was operationalized through tactile materials, silent narratives, sign language facilitation, and adaptive strategies, while interdisciplinary collaboration—bringing together archaeologists, museum educators, writers, artists, illustrators, digital technology specialists, educational scientists, and accessibility experts—ensured thematic coherence and pedagogical rigor.

Collectively, these practices reframed cultural heritage as a dynamic, participatory domain, producing a child-centered model that is replicable across contemporary education systems and aligned with global priorities of inclusivity, technological innovation, and cultural sustainability (Fig. 8, 9).

Figure 9
Shapes of History! Workshop session conducted as part of the Cultural Heritage Studies for Children (0-18) Workshop VI: Digital Practices, 2024



2. Institutional and Speaker Analysis in Cultural Heritage Education Workshops (2019–2025)

The distribution of institutions and speakers across the six workshops held between 2019 and 2025 clearly demonstrates the extensive institutional network within which cultural heritage education has evolved. Speaker lists included representatives from museums, universities, institutes, research centers, foundations, associations, local governments, international cultural organizations, and independent researchers. This diversity reflects the multi-actor and multi-layered nature of cultural heritage education, developed through inter-institutional and international collaboration.

2.1. Scope of Institutional Participation

Across the six workshops, 99 speakers participated, including 25 international experts from Germany, Italy, Denmark, Japan, Greece, Lebanon, France, Egypt, the United Kingdom, Russia, Taiwan, and Portugal. The speaker profiles reflected a distinctly interdisciplinary composition, representing archaeologists, museum educators, child development specialists, graphic designers and illustrators, children's literature authors, teachers and academics, digital designers and technology experts, social workers as well as accessibility and special needs specialists. This professional diversity demonstrates that the workshops operated not merely as academic discussion platforms but as dynamic environments where practitioners shared experiences and contributed to interdisciplinary knowledge production.

The geographical distribution of the projects presented further underscores the extensive reach of cultural heritage education practices. In Türkiye, project sites ranged from major urban centers to rural districts, including Ankara, Beypazarı, Polatlı Gordion, Batman, Bursa, Çorum, Eskişehir, Istanbul, İzmir, Kırklareli, Konya İvriz, Mardin, Siirt and Şırnak. Internationally, the workshops showcased projects from Germany, Denmark, Iraq, the United Kingdom, Italy, Japan, Lebanon, Egypt, Mongolia, Greece, Russia, Portugal, France and Taiwan.

Taken together, the interdisciplinary speaker profiles, international participation, and wide geographical scope reveal the emergence of a multiactor, collaborative, and globally connected network. This network positions the workshop series as a significant platform for cross-cultural dialogue and comparative evaluation in cultural heritage education, fostering both theoretical reflection and practical innovation.

Each invited case study has been chosen and studied carefully, in order to support the diversity of the topic of the workshop series. Below we present a list of the institutions, which have accepted our invitations.

2.1.1. Universities and Research Institutes

The strong representation of universities and research institutes indicates that cultural heritage education has matured as an academic field. International contributors included experts from the University of Bologna, Politecnico di Milano, Sapienza University of Rome, University of Turin, University of Oxford and Misr International University, presenting the-

oretical and/or practice-oriented research. From Türkiye, speakers represented a wide range of institutions, including Ankara Üniversitesi, Ankara Hacı Bayram Veli Üniversitesi, Ankara Sosyal Bilimler Üniversitesi, Aydın Adnan Menderes Üniversitesi, Bingöl Üniversitesi, Ege Üniversitesi, Eskişehir Teknik Üniversitesi, Hacettepe Üniversitesi, Hitit Üniversitesi, Istanbul Üniversitesi, Istanbul Gelişim Üniversitesi, Istanbul Teknik Üniversitesi, Koç Üniversitesi, Yıldız Teknik Üniversitesi, German Archaeological Institute Istanbul branch (DAI Istanbul), Anadolu University Research Institute for Individuals with Disabilities, Koç Üniversitesi Vehbi Koç Ankara Studies Research Center (VEKAM), Koç Üniversitesi Suna & İnan Kıraç Research Center for Mediterranean Civilizations and Koç Üniversitesi Center for Support to Children with Disabilities and Their Families (EÇADEM). This breadth of participation underscores the comprehensive representation of both public and private institutions.

2.1.2. Museums

Numerous museums from Türkiye and abroad contributed learning programs alongside theoretical and hands-on activities, enabling experience-sharing and comparative evaluation. International participants included the Acropolis Museum (Athens), Ashmolean Museum (UK), Museum of the Ancient Near East (Berlin, Germany), Kyushu National Museum (Japan), Louvre Museum (France), LVR-RömerMuseum (Germany), and M9 – Museum of the 20th Century (Italy).

From Türkiye, participants included the Museum of Anatolian Civilizations, Ankara Ethnography Museum, Ankara Museum of Intangible Cultural Heritage, Bursa Metropolitan Municipality Museums, Cin Ali Museum, Çankaya Municipality Abidin Paşa National Struggle Museum, Çorum Museum, Gordion Museum, Istanbul Dialogue Museum, Kocaeli Museum, Pera Museum, Rahmi M. Koç Museum (Ankara and Istanbul), Sadberk Hanım Museum, Sakıp Sabancı Museum, and the Troy Museum, representing a wide spectrum of state and private museums.

2.1.3. Archaeological Sites, Archaeoparks, Nature Parks, and Industrial Heritage Sites

Speakers from Aktopraklık Archaeology School, Ankara University Paşalar Excavation, Beykoz Kundura Complex, Eymir Ornithology Research Center, Gordion Excavation Project, İvriz Rock Relief, Juliopolis Necropolis, Kırklareli Aşağı Pınar Open-Air Museum, Küçükyalı Archaeopark, Living Village (Beypazarı), Yeşilova Höyük, LVR-Archaeological Park Xanten (Germany), Sagnlandet Lejre (Denmark), and the UNESCO World Heritage Wadden Sea Visitor Center (Denmark) highlighted the role of archaeological and natural sites as powerful out-of-school learning environments fostering cultural and natural heritage awareness, education, and stewardship.

2.1.4. Associations and Foundations

Representatives from Cin Ali Foundation, ÇEKÜL Foundation, Turkish Marine Environment Protection Association / TURMEPA (DenizTemiz Association), Kırklareli

Cultural Heritage Association, Kundura Memory Cultural Heritage Preservation Association, Cultural Heritage Preservation Association (KMKD), History Foundation showcased initiatives grounded in social responsibility and community engagement.

2.1.5. Other Institutions and Organizations

The workshops also featured contributions from the NGO BILADI Association (Lebanon), ICCROM Library (Italy), Ankara Metropolitan Municipality, Avcılar Science and Art Center, Bursa Metropolitan Municipality, Bursa-Nilüfer Halil İnalcık Science and Art Center, Cin Ali Foundation Library, Komet Cultural and Art Projects, Konya Ereğli Guidance and Research Center, Kundura Memory Research Center, the Turkish Ministry of Culture and Tourism (General Directorate of Cultural Heritage and Museums), UNESCO National Commission of Türkiye, the Department for Combating Illicit Trafficking of Cultural Property, GES-2 House of Culture (Russia), ACCESS Culture (Portugal), and Bongo Art Project Social Initiative. This extensive network of public institutions, local governments, private enterprises, and cultural organizations from Türkiye and abroad illustrates the broad representational scope of the series.

2. 2. Social Impact

The workshop series generated significant social impact by fostering interdisciplinary collaboration and enhancing global accessibility in cultural heritage education. Approximately 2039 professionals from diverse fields actively engaged in the programs. The participant profile encompassed a wide range of disciplines and professions, including teachers, archaeologists, art historians, architects, museologists, authors, illustrators, curators, restoration specialists, linguists, educational scientists, social workers, psychologists, sociologists, social anthropologists, folklorists, publishers, academics, researchers and editors. This interdisciplinary participation underscores the multidimensional nature of cultural heritage education, which cannot be confined to a single field of expertise.

The adoption of hybrid and online formats extended the reach of the workshops beyond national boundaries, attracting participants from the United States, France, Germany, Sweden, Switzerland, Belgium, the United Kingdom, Cyprus, and Italy. This global engagement facilitated intercultural dialogue and positioned cultural heritage education within an international framework of shared practices and collaborative learning.

One of the core objectives of the workshop series was to address the lack of theoretical and practice-oriented resources in cultural heritage education by producing sustainable publications. The workshops contributed to capacity building by producing sustainable publications, including hands-on guidebooks and proceedings that integrate theory and practice. These resources serve as permanent reference materials for educators, academics, researchers, and practitioners, ensuring the continuity of knowledge transfer and supporting the development of innovative educational models. Through these initiatives, the series has advanced not only academic discourse but also social responsibility, accessibility, and

community engagement in cultural heritage education. The proceedings of the first workshop were published in 2020, the second workshop's proceedings were released in 2023, and those of the third and fourth workshops in 2024 by Koç University Press. The fifth workshop's proceedings are currently in preparation.

These publications contribute directly to both academic literature and practical application, ensuring that the knowledge and experience generated through the workshops are transformed into permanent reference sources.

2.3. **Outcomes**

As a result of the six workshops conducted, the contributions of invited speakers from diverse disciplines, who approached cultural heritage studies from a broad perspective using a variety of methods and techniques, constituted one of the key outcomes in achieving the objectives of the workshops. The fact that applications to the workshops encompassed a wide range of disciplines and that all quotas were filled in a short period clearly demonstrates the need for a platform that brings together, makes visible, and fosters collaboration among cultural heritage–focused projects. The high level of participation throughout the two-day event, including attendees from outside the city, together with sustained engagement in presentations and the rapid filling of workshop quotas, further underscores the strength of this need. The compilation of numerous cultural heritage–focused projects, both national and international, in the volumes prepared following the workshops enables each contribution to strengthen the academic content of the book series. The strong interest in these publications clearly demonstrates the need for producing resources in the field.

When aiming to ensure the effective implementation of cultural heritage education in Türkiye, it is essential to begin by identifying the factors that constrain this process. The fact that cultural heritage topics are addressed in a limited and fragmented manner within the curriculum makes it difficult to approach the field in a systematic and sustainable way. At the institutional level, the lack of strong and sustainable collaboration among museums, universities, non-governmental organizations, and schools emerges as a significant barrier. Furthermore, the dominance of traditional teaching methods limits children's ability to engage with cultural heritage in an active, interactive, and multidimensional manner. In this context, teacher and professional capacity plays a decisive role. Strengthening cultural heritage education therefore requires investment in teacher training, the development of continuous professional development programs, and the support of interdisciplinary collaborations.

3. **Conclusion**

The series of "Cultural Heritage Studies for Children (0-18) Workshops" has filled a significant gap by bringing together national and international experts to establish a shared academic platform, introducing innovative methods through hands-on workshops, and contributing lasting resources to the field through published proceedings. This series has become one of the first sustained programs in Türkiye to address cultural heritage practices for children across theoretical, pedagogical, and practical dimensions.

When compared with international educational initiatives implemented by institutions such as the Acropolis Museum, the Louvre Museum, the Ashmolean Museum, the LVR Archaeological Park Xanten, and the Wadden Sea World Heritage Centre, several common characteristics become visible. These institutions employ interdisciplinary collaboration, participatory learning, object-based education, and place-based experiences as core pedagogical principles. The VEKAM workshop series shares these characteristics while addressing a distinctive need within the Turkish context: The creation of a sustainable professional network that brings together educators, museum professionals, archaeologists, researchers, and accessibility specialists. Unlike many museum-based programs that primarily target children directly, VEKAM adopts a capacity-building approach by training professionals who subsequently reach larger numbers of children through their own institutions and projects. This multiplier effect represents one of the most distinctive features of the VEKAM model.

Within the Turkish context, cultural heritage education initiatives are generally fragmented, often focusing either on children as the primary audience or on the professional development of educators and museum practitioners. While valuable examples exist in both areas, there has been no comparable platform that systematically brings together diverse stakeholders from the fields of education, museums, archaeology, cultural management, accessibility, and heritage interpretation within a single, long-term framework. Prior to this project, no similar initiative existed in Türkiye that adopted a holistic approach to addressing cultural heritage activities for children – encompassing research, sharing within a conference setting, and experimental learning through hands-on workshops. A review of the relevant literature reveals that academic research has primarily focused on museum education, which constitutes only a limited segment of the cultural heritage field. While graduate theses (Bilir, 2023; Salbacak, 2011; Taşoğlu, 2024) and articles (Çakır İlhan, 2017; Er Tuna & Kaya, 2022; Mertoğlu & Usta, 2023) produced in this context have made significant contributions to the field, these works are exclusively publications and do not constitute a platform that integrates the dimensions of implementations, knowledge, sharing, and practical experience. On the other hand, the education-oriented museum activities conducted by the Erimtan Archaeology and Art Museum in Ankara-conducted in 2023, 2024, and 2025-can be considered a noteworthy example of practice in this field. However, this initiative, too, focuses on only one of the topics constituting the scope of the study discussed here. As part of the program, which is implemented in collaboration with a single museum selected from a different country each year, the partner museum's educational work is showcased through a public conference, on the second day of the event, experts from that museum conduct a workshop that is open to industry professionals but limited in capacity.

In this respect, the VEKAM workshop series represents a pioneering initiative in Türkiye. Its significance extends beyond the annual workshops themselves through the publication of proceedings volumes that document not only theoretical discussions but also practical methodologies, educational tools, and case studies. By making these resources publicly available, the workshop series functions as a reference platform that supports knowledge transfer, meth-

odological exchange, and the dissemination of good practices across the cultural heritage sector. This combination of professional networking, capacity building, and methodological documentation distinguishes the VEKAM model from other heritage education initiatives in Türkiye and positions it as a transferable model for the field.

Field applications presented across the workshops—encompassing nature-based learning, archaeological practices, and multisensory museum experiences—demonstrated the necessity of structuring cultural heritage education for children as an interactive, experiential, and multidimensional learning model. Such practice-based content enables children to engage with cultural heritage not only at the cognitive level but also through sensory, bodily, and emotional modalities, thereby deepening the learning process. The evidence therefore shows a strong alignment between cultural heritage education and contemporary pedagogical approaches premised on children's active participation and learnercentered engagement.

The participation of international experts allowed for comparative analysis between models developed in Türkiye and those implemented elsewhere. Through concrete examples, the pedagogical diversity of children's relationships with different cultures was examined, and intercultural approaches in education were critically evaluated. New methods and practices from a wide geographical spectrum—including digital museology, accessibility frameworks, and creative narratives—were discussed, making visible the relationship of cultural heritage education to global trends.

A clear need was identified for structured programs that provide continuous support in cultural heritage education for professionals working with children, especially teachers. This requirement is considered a significant finding for safeguarding the continuity and quality of cultural heritage education. Likewise, the importance of jointly developing national and international programs for children among museums, universities, and research centers was emphasized, in order to mobilize existing potentials effectively. Such partnerships contribute strategically both to institutional capacity-building and to the wider dissemination of cultural heritage education.

The technological transformation underscored in the fifth workshop—augmented reality (AR), threedimensional modeling, digital archives, virtual museums, digital exhibition practices, and interactive digital learning tools—revealed that cultural heritage education is being reshaped in line with the demands of the digital age. This transformation indicates the necessity of moving cultural heritage beyond place-bound learning environments toward more accessible and pluralistic structures.

With the accessibility-themed workshop held in 2025, the imperative to design cultural heritage education with reconfigured tools and methods to include all children with special needs, including gifted learners, was further highlighted. In this context, access to culture and heritage elements was articulated as a fundamental right and ensuring such access as a public responsibility.

Beyond its local impact, the VEKAM workshop series may be understood as a transferable model for cultural heritage education. The model is structured around five interconnected components: Interdisciplinary collaboration, international knowledge exchange, hands-on experiential learning, resource production through published proceedings, and a commitment to accessibility and inclusion. These components are not dependent on a specific institutional structure and can therefore be adapted by museums, universities, heritage sites, and cultural organizations operating in different national contexts. The continuity of the workshops between 2019 and 2025 further demonstrates that sustainable professional development programs can contribute to long-term capacity building in cultural heritage education. In this respect, the VEKAM experience offers a framework that can inform future heritage education initiatives seeking to combine academic knowledge, practical application, and social impact.

Since 2019, the workshop series sustained within Koç Üniversitesi VEKAM has also revealed that, despite the existence of numerous independent initiatives across Türkiye, a coherent or central structure that connects these efforts, enables systematic sharing of good practices, and supports sustainable professional development has not yet emerged. This constitutes an important finding pointing to the necessity of an integrated national network in the field of cultural heritage education.

The findings suggest that the most significant contribution of the workshop series lies not only in the diversity of topics addressed but also in its progressive thematic development. Over six years, the program evolved from introducing general principles of cultural heritage education to addressing increasingly specialized themes such as teacher training, creative media, place-based learning, digital technologies, and accessibility. This progression reflects broader international developments in museum and heritage education, where participation, inclusion, and digital engagement have become central priorities. Consequently, the VEKAM workshops can be interpreted as both a reflection of contemporary trends in heritage education and a mechanism through which these trends are adapted to the Turkish context. Soon an online education platform discussing the topics of all workshops will be shared and aims to reach a larger audience.

Participant feedback indicates that the workshops are highly valuable not only for their content provision but also for their contribution to the development of interdisciplinary and regional professional networks. In this respect, the series functions beyond knowledge sharing, serving as a platform that strengthens collaboration within the field.

Finally, the dissemination of all workshop content through proceedings volumes to reach wider audiences and guide the field has increased the permanence and reach of knowledge production. The strong interest in these publications is a clear indicator of the ongoing need for both theoretical and practice-oriented resources in cultural heritage education.

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A COLLABORATIVE PARTICIPATORY EXPERIENTIAL LEARNING TRAIL FOR YOUNG LEARNERS: CONNECTING SCHOOLS WITH LOCAL CULTURAL HERITAGE

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Abstract

Small local museums preserve rich cultural heritage knowledge, but this knowledge does not automatically become meaningful learning content for young learners. This article therefore asks how a small local museum, school, temple, and community can collaboratively transform local cultural heritage into a structured, participatory, and experiential learning trail for upper-primary students. This paper presents a co-created experiential learning trail developed at Wat Phra Borommathat Sawi Museum in Chumphon Province, Thailand, in partnership with Wat Chum Saeng School. The study employed a Participatory Action Research approach, informed by Kolb's experiential learning cycle, Nina Simon's participatory museum framework, and the Woraphob learning platform as a place-based collaborative mechanism. Students, teachers, a Buddhist monk, museum representatives, and local residents were involved in identifying heritage elements, developing learning activities, and revising the trail through cycles of observation, reflection, and experimentation. The article argues that a participatory experiential learning trail can function as a bridge between school-based learning and local cultural heritage when museum objects, community narratives, sacred places, and local knowledge are collaboratively interpreted as learning resources. The findings are presented in three main claims. First, participatory design transformed scattered local heritage knowledge into structured learning content through a ten-point learning trail across the temple and museum grounds. Second, the trail repositioned students from passive museum visitors to active local learners who observed, discussed, reflected, interpreted, and proposed ways to care for local heritage. Third, the museum became a connector between school, temple, and community, enabling intergenerational dialogue and strengthening students' sense of belonging to their local place.

Keywords

Inclusive Learning, *Co-creation*, *Community Engagement*, *Local Cultural Heritage*, *Experiential Learning Trail*, *Accessibility*

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Small local museums often preserve rich cultural heritage knowledge, yet this knowledge does not automatically become meaningful learning content for young learners. Although museums and heritage sites are increasingly recognized as important spaces for learning beyond the classroom, exhibitions do not automatically become meaningful to young visitors. Research on informal museum learning highlights the educational role of museums as non-formal and informal learning environments (Brajčić & Kuščević, 2022), while studies of science center visitors show that visitors may still experience difficulty understanding exhibits and labels when interpretation is not sufficiently clear or accessible (Laçin-Şimşek & Öztürk, 2021). In such cases, heritage may appear distant from students' everyday lives, even when it belongs to their own local community.

This problem is particularly significant in local museum contexts, where cultural heritage often exists in multiple forms, including objects, sacred places, oral narratives, community memories, and everyday cultural practices. These forms of knowledge require interpretation, selection, and educational design before they can become accessible to young learners.

Out-of-classroom learning can connect classroom learning with learning sources outside the classroom, including communities, natural environments, and other sites of study (Limtasiri, 2021). In the Thai educational context, the National Education Act B.E. 2542 recognizes museums as lifelong learning resources and emphasizes learning through real experience, sources of knowledge, and educational content related to history, society, religion, art, culture, and Thai wisdom (Ministry of Education, 1999). Recent research also frames museums, schools, and universities as places of supplementary learning and examines how communication and collaboration among these institutions can be improved (Soto-González et al., 2025). However, the educational value of museum visits depends on how learning activities are designed and how learners are invited to participate.

Existing studies have emphasized the educational potential of museums, learning trails, and school–museum partnerships. Learning trails can be used to structure students' engagement with learning activities across selected sites or stations (Leister et al., 2019), while school–museum partnerships can support student learning when roles, communication pathways, and coordination between schools and museums are clearly developed (Ateş & Lane, 2019). Nevertheless, many museum-based learning activities remain primarily designed by experts, with limited participation from students, teachers, and local community members. This limitation is especially relevant for small local museums in Thailand, where limited staff and resources can restrict formal educational programming.

To address this issue, this article draws on experiential learning theory and participatory museum practice. Kolb's experiential learning theory explains learning as a cycle of concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 2015). In museum and heritage contexts, this framework supports activities that encourage learners to observe, reflect, interpret, and apply meaning. Simon's participatory museum framework further emphasizes the shift from individual engagement toward collective meaning-making, where objects, stories, and places can function as social objects that stimulate dialogue and shared interpretation (Simon, 2010).

In addition to experiential learning theory and participatory museum practice, this study draws on the Woraphob learning platform proposed by Cusripituck et al. (2024). Woraphob is understood as a place-based collaborative mechanism that connects four local learning agents: Temple, school, museum, and home/community. It emphasizes the mobilization of local resources, knowledge, and relationships to support learning grounded in the lived context of a particular place. In this study, Woraphob provided a practical mechanism for bringing together Wat Phra Borommathat Sawi, Wat Chum Saeng School, the museum, and local community members in the co-creation of the experiential learning trail.

This article presents a collaboratively developed participatory experiential learning trail for upper-primary students at Wat Phra Borommathat Sawi Museum in Chumphon Province, Thailand. The study was conducted in partnership with Wat Chum Saeng School, the temple and museum representative, and local community members through a Participatory Action Research approach. It asks how a small local museum, school, temple, and community can collaboratively transform local cultural heritage into an experiential learning trail for young learners.

The article argues that a participatory experiential learning trail can function as a bridge between school-based learning and local cultural heritage when museum objects, community narratives, sacred places, and local knowledge are collaboratively interpreted as learning resources. By examining this case, the article contributes to heritage education and museum studies by showing how small local museums with limited resources can become participatory learning platforms that connect young learners with local cultural heritage through dialogue, belonging, and shared responsibility.

1. Literature Review and Conceptual Framework

1.1. Heritage Education for Young Learners

Heritage education has increasingly been recognized as a vital pedagogical approach for fostering learners' understanding of history, culture, and place, while also supporting the development of identity, cultural awareness, and a sense of belonging. Museums and local heritage sites, in particular, provide access to both tangible and intangible cultural heritage that can enrich school-based learning through direct and situated experiences (Brajčić & Kuščević, 2022). Recent work on heritage in history education further emphasizes that cultural heritage can help learners connect historical understanding with familiar local examples, identity, and the protection of heritage (Oja, 2025). For young learners, engagement with heritage offers opportunities to connect abstract historical narratives with concrete objects, places, and stories embedded within their own communities.

Despite its educational potential, previous research highlights persistent challenges in engaging primary school students with museum exhibitions. Studies indicate that learners aged approximately 10–15 often experience difficulties in interpreting exhibition narratives when displays rely heavily on textual explanations, technical terminology, or expert-driven interpretations (Laçin-Şimşek & Öztürk, 2021). In such contexts, students may struggle to grasp intended meanings or perceive heritage content as distant, abstract, and disconnected from their everyday lives. These challenges are particularly pronounced in local museums, where exhibitions are commonly designed for general audiences rather than specifically for children or school groups.

Furthermore, the effectiveness of heritage education is closely linked to the quality of collaboration between schools and museums. Ateş and Lane (2019) show that school–museum partnerships require clearly defined roles, stronger communication pathways, and a liaison who can support consistent communication and the sharing of ideas between schools and museums. This concern is also reflected in studies emphasizing the need to close the gap between museums and schools through stronger cooperation and more guidance from museum educators and curators (Zbuchea et al., 2022).

When schools are not actively involved in planning heritage-based learning activities, museums are frequently left to shoulder the responsibility for educational mediation alone. This situation underscores the need for collaborative models that distribute responsibility for heritage education across schools, museums, and local communities. Taken together, these studies suggest that heritage education for young learners requires approaches that move beyond content transmission toward models that are age-appropriate, context-sensitive, and collaboratively designed. Such approaches are particularly relevant in local heritage settings, where meaningful engagement depends on aligning educational activities with learners' lived experiences and community contexts.

1.2. **Experiential Learning in Museum Contexts**

Experiential learning theory provides a valuable framework for addressing the challenges identified in heritage education by emphasizing learning through direct experience, reflection, and active engagement. Kolb (2015) conceptualizes learning as a cyclical process comprising four interrelated stages: Concrete experience, reflective observation, abstract conceptualization, and active experimentation. Rather than viewing learning as the passive acquisition of information, this framework positions learners as active participants who construct knowledge through interaction with their environments.

Within museum and heritage contexts, experiential learning supports educational designs that encourage learners to engage directly with objects, spaces, and narratives. Museum education involves using museum resources and collections to facilitate learning for diverse audiences through activities such as tours, workshops, and interactive exhibits that promote active and inquiry-based learning (Todino & Campitiello, 2025). Research on museum-based learning suggests that encounters with museum objects and activities can support informal and non-formal learning by encouraging visitor engagement, experience, and active participation in the museum setting (Brajčić & Kuščević, 2022).

Learning trails have been identified as one practical means of operationalizing experiential learning in museums and cultural sites. By guiding learners through a structured sequence of locations and activities, learning trails can support engagement with learning tasks and encourage learners to explore selected sites or exhibits more systematically (Leister et al., 2019). Rather than prescribing a single narrative, learning trails create opportunities for learners to engage with heritage content at their own pace and to make personal connections with places and objects. However, experiential learning alone does not automatically guarantee meaningful engagement. For young learners, activities must be carefully designed to align with their developmental levels, prior knowledge, and interests. Without appropriate scaffolding and opportunities for reflection, experiential activities may remain superficial or fail to support deeper understanding. This limitation highlights the importance of integrating experiential learning with participatory approaches that foreground learners' voices, social interaction, and collaborative meaning-making.

1.3. **Participatory Approaches and Co-creation in Museums**

Participatory approaches in museums emphasize the active involvement of audiences and communities in the interpretation and creation of meaning, rather than positioning them as passive recipients of expert knowledge. Simon (2010) argues that participatory museums foster engagement by designing opportunities for visitors to contribute, collaborate, and share perspectives. Central to this approach is the concept of social objects, whereby objects, stories, or places serve as focal points for interaction, dialogue, and shared interpretation.

In educational contexts, participatory practices encourage learners to move from individual engagement toward collective meaning-making. The shift from "me" to "we" enables learners to articulate personal interpretations while negotiating shared understandings with

peers, educators, and community members (Simon, 2010). Such processes are particularly relevant in heritage education, where meanings are often layered, contested, and deeply connected to local identity and community memory.

Despite their potential, participatory and co-creative approaches remain underrepresented in heritage education for young learners, especially in small local museum contexts. Resource constraints, limited staffing, and traditional institutional structures often hinder the implementation of participatory practices. Nevertheless, school–museum partnerships can be strengthened when institutions clarify roles, develop communication pathways, and establish forms of coordination that support educational collaboration (Ateş & Lane, 2019).

Building on these insights, participatory approaches offer a promising framework for rethinking heritage education as a shared process of learning and meaning-making. When combined with experiential learning, participatory practices can support learning environments in which young learners actively engage with cultural heritage while developing a sense of belonging and shared responsibility for its preservation.

2. Conceptual Framework: Participatory Experiential Learning

This study integrates experiential learning theory and participatory museum concepts to form a participatory experiential learning framework for heritage education. Kolb's experiential learning cycle (Kolb, 2015) provides the structural foundation for designing learning activities that move learners through stages of experience, reflection, conceptualization, and experimentation. This cyclical process supports deep learning by encouraging learners to actively construct knowledge through interaction with their environment.

Complementing this framework, Simon's participatory museum model (Simon, 2010) informs the social dimension of learning. The concepts of "me-to-we" progression and social objects are used to design activities that foster collaboration, dialogue, and shared interpretation. In this study, cultural objects, exhibition narratives, and heritage sites function as social objects that mediate interaction between learners, educators, and community members.

Woraphob further extends this conceptual framework by specifying the local mechanism through which collaboration was organized. While Kolb's experiential learning theory informed the design of students' learning processes, and Simon's participatory museum framework supported participation and shared meaning-making, Woraphob functioned as the mechanism that connected local institutions and community actors into a collaborative learning network. In this study, the temple, school, museum, and home/community were not treated as separate contexts, but as interconnected learning agents that jointly shaped the content, activities, and social relationships of the learning trail (Cusripituck et al., 2024).

By integrating experiential learning theory, participatory museum practice, and the Woraphob mechanism, participatory experiential learning is conceptualized not merely as a sequence of activities, but as a learning process embedded in social relationships and local

contexts. Learning is understood as both an individual and collective process, in which learners develop personal connections to heritage while also engaging in shared meaning-making. This integrated framework guided the design of the learning trail and the participatory processes through which it was developed.

Within this framework, the learning trail functions as a mediating structure that operationalizes experiential, participatory, and place-based collaborative principles. The sequencing of activities follows Kolb's learning cycle, while participatory elements—such as dialogue, collaborative tasks, and engagement with social objects—are embedded throughout the trail. This conceptual framework therefore informed not only the design of learning activities, but also the research methodology, particularly the use of Participatory Action Research to support iterative co-creation with students, educators, and community stakeholders.

3. **Methodology**

3.1. **Research Design**

This study adopted a qualitative case study design employing Participatory Action Research (PAR) as the primary methodological approach. PAR was selected due to its emphasis on collaboration, iterative reflection, and collective knowledge production, which aligns with the study's focus on co-creation and participatory heritage education. Rather than positioning participants as research subjects, PAR frames them as co-researchers who actively contribute to the design, implementation, and refinement of learning activities throughout the research process.

The study was conducted as a single case study situated in a local museum context, enabling in-depth examination of how participatory and experiential learning principles can be operationalized in heritage education for young learners.

3.2. **Research Context and Participants**

The research was conducted at Wat Phra Borommathat Sawi Museum in Chumphon Province, Thailand, in collaboration with Wat Chum Saeng School and members of the surrounding community. The museum is located within a temple complex and functions as a local heritage institution preserving both tangible and intangible cultural heritage related to religious practice, local history, and community life.

Participants were purposively selected to reflect the multiple stakeholder groups involved in heritage learning within the community. These included 8 upper primary school students (Grades 4–6), 3 school teachers, one Buddhist monk representing the temple and museum, and 4 members of the local community. In total, 16 participants were actively involved across the different phases of the research. All participants took part on a voluntary basis, and ethical procedures, including informed consent, were followed in accordance with research ethics guidelines.

3.3. **Participatory Action Research Process**

The PAR process unfolded through multiple iterative cycles of planning, action, observation, and reflection. Initial cycles focused on understanding students' existing learning behaviors during museum visits and identifying challenges associated with conventional, non-participatory learning approaches. Subsequent cycles emphasized the collaborative identification of local heritage elements, co-design of learning activities, and iterative refinement of the experiential learning trail.

Throughout the process, participants engaged in collective reflection sessions to discuss observations, share perspectives, and propose adjustments to the learning design. These cycles enabled the learning trail to evolve in response to participants' experiences and feedback, ensuring that the final design was grounded in local contexts and participants' lived experiences.

3.4. **Data Collection Methods**

Multiple qualitative data collection methods were employed to capture diverse perspectives and support methodological triangulation. These methods included participant observation during museum visits and learning activities, focus group discussions with students and teachers, in-depth interviews with adult stakeholders, and documentation generated through collaborative design activities.

Field notes, audio recordings of discussions and interviews, and visual documentation were used to record participants' interactions, reflections, and contributions throughout the PAR process. Data collection occurred across all phases of the research, allowing for continuous comparison between planned activities and emergent outcomes.

3.5. **Data Analysis**

Qualitative data were analyzed using a thematic analysis approach. Data from observations, interviews, and group discussions were transcribed and coded to identify recurring patterns related to learner engagement, participation, meaning-making, and perceptions of cultural heritage. Initial codes were generated from the data and subsequently organized into broader themes. These themes were further refined through an iterative process of comparison across data sources and research cycles.

Analytical attention was given to how experiential learning processes and participatory practices influenced students' interactions with heritage, as well as to the roles played by different stakeholders in shaping the learning trail. The analysis was informed by the study's conceptual framework, integrating experiential learning theory, participatory museum concepts, and the Woraphob mechanism to interpret the findings.

3.6. **Trustworthiness and Ethical Considerations**

To enhance the trustworthiness of the study, methodological triangulation was employed by combining multiple data sources and participant perspectives. Member reflection was also incorporated through group discussions, allowing participants to clarify and reflect on emerging interpretations.

Ethical considerations were addressed throughout the research process. Participation was voluntary, informed consent was obtained from all participants and guardians of student participants, and anonymity was maintained in the presentation of findings. The participatory nature of the research emphasized respect, inclusivity, and shared ownership of both the process and outcomes.

4. **Results**

This section presents three main findings that explain how the participatory experiential learning trail connected young learners with local cultural heritage. The findings show that the learning trail was not merely a physical route through the museum and temple grounds, but a collaborative educational process through which local heritage knowledge was selected, interpreted, and transformed into structured learning experiences.

4.1. **Participatory Design Transformed Scattered Local Heritage Knowledge Into Structured Learning Content**

The first finding is that local cultural heritage did not become meaningful learning content automatically. At Wat Phra Borommathat Sawi Museum, heritage knowledge existed in multiple and scattered forms, including museum objects, sacred places, local legends, community narratives, religious meanings, everyday tools, and memories held by local residents. Although these resources were culturally significant, they required interpretation and educational design before they could become accessible to upper-primary students.

Through the participatory design process, these different forms of knowledge were selected and reorganized into a structured learning trail. Teachers contributed perspectives on students' learning levels, classroom relevance, and the suitability of activities for primary school learners. The Buddhist monk and community members provided local stories, cultural explanations, and contextual meanings that were not always visible in museum labels or formal displays. Students contributed their curiosity, questions, and responses to objects and places, helping the design process identify which heritage elements were engaging and understandable for young learners.

This collaborative process transformed local heritage from dispersed cultural knowledge into a ten-point experiential learning trail across the museum and temple grounds. Each point was designed around specific heritage content and student activity. The trail encouraged students to observe museum objects, interpret local stories, discuss sacred places, connect heritage with community life, and reflect on their own role in caring for local heritage. In this sense, the learning trail became a structured educational form through which local knowledge was translated into age-appropriate and participatory learning content.

The final design also showed that local heritage learning required both content selection and activity design. Rather than presenting heritage as fixed information, the trail organized cultural content into tasks, questions, and group activities. This made heritage more accessible to students by turning museum objects, temple spaces, and community narratives into learning resources that students could experience, discuss, and interpret.

To clarify the structure of the learning trail, the ten-point learning trail consisted of an introductory station, eight experiential learning stations, and a concluding reflection station. The introductory station oriented students to the storyline of the trail and positioned them as local heritage explorers. The eight experiential learning stations focused on: (1) Exploring Sawi history through museum objects and displays; (2) learning about community agriculture through local agricultural tools and practices; (3) investigating local wisdom through everyday objects and community knowledge; (4) interpreting the legend of Phra Borommathat Sawi through narrative-based activities; (5) tracing restoration practices through evidence related to the chedi and its architectural features; (6) appreciating the value of Phra Borommathat Sawi Chedi through direct engagement with the sacred site; (7) reflecting on how to protect Sawi's cultural heritage through discussion and shared ideas; and (8) connecting community life with Khlong Sawi as an important local waterway. The concluding reflection station encouraged students to synthesize what they had learned, share their interpretations, and consider their own roles in caring for local cultural heritage.

The ten-point learning trail helped students understand the museum exhibition and local heritage content through direct experience, discussion, and reflection. Students were able to connect objects, stories, sacred places, and community knowledge with their own local context. The activities also encouraged appreciation, a sense of belonging, and awareness of their role in caring for Sawi's cultural heritage.

4.2. **The Learning Trail Repositioned Students from Passive Museum Visitors To Active Local Learners**

The second finding is that the experiential learning trail changed the role of students in the museum. Instead of being positioned as passive visitors who only listened to explanations or looked at displays, students became active participants in the learning process. The trail required them to observe, ask questions, draw, discuss, compare ideas, reflect, and propose ways to care for local heritage.

During the activities, students engaged directly with heritage objects, architectural features, sacred spaces, and local stories. They were encouraged to notice details, describe what they saw, connect objects with everyday life, and share interpretations with peers. These activities created a more active form of museum learning because students were not only receiving information from adults or museum displays. They were also producing meaning through their own observations and group discussions.

The experiential structure of the trail supported different forms of participation. Some students engaged through visual observation and drawing, while others participated more actively through speaking, questioning, or group discussion. This flexibility allowed students with different learning styles to take part in the activities. It also made the museum visit less formal and more accessible, especially for young learners who might not respond well to lecture-based museum interpretation.

Social objects played an important role in this shift. Museum objects, local tools, religious elements, and temple spaces became starting points for conversation and interpretation. Students were invited to respond to these objects through questions and discussion rather than simply memorize fixed explanations. This helped transform heritage learning from passive content reception into active inquiry and shared meaning-making.

As a result, students were repositioned as local learners who could connect museum content with their own community and everyday environment. The trail encouraged them to see local heritage not as distant historical information, but as something related to their own place, identity, and responsibility. This finding shows that experiential learning activities can help young learners move from simply visiting a museum to actively interpreting and valuing local cultural heritage.

4.3. **The Museum Became A Connector Between School, Temple, and Community**

The third finding is that the learning trail expanded the role of the museum. In this study, Wat Phra Borommathat Sawi Museum did not function only as a place for displaying objects. Through the participatory learning trail, it became a connector between school-based education, temple heritage, community knowledge, and local cultural memory.

This connection was created through the involvement of multiple stakeholders. Teachers helped connect the trail to students' learning needs and educational aims. The Buddhist monk contributed knowledge about the temple, sacred spaces, religious meanings, and local beliefs. Community members shared stories, memories, and local interpretations that helped students understand cultural heritage as part of lived experience. Students brought their own questions, observations, and interpretations into the process. Together, these participants transformed the museum into a shared learning space.

The trail also created opportunities for intergenerational dialogue. Students were able to learn from adults who held local knowledge, while community members and the monk were able to participate in students' learning. This interaction allowed heritage knowledge to move across generations through conversation, storytelling, and shared activity. As a result, cultural heritage was not presented only as information preserved in the museum, but as living knowledge connected to people, memory, belief, and place.

The museum therefore became a platform that linked different institutions and forms of knowledge. It connected the school with local heritage, the temple with educational practice, and the community with young learners. This finding also demonstrates how the Woraphob mechanism operated in practice, as the temple, school, museum, and home/community became connected through shared participation in heritage learning (Cusripituck et al., 2024).

This finding is significant because small local museums often have limited staff, budget, and formal educational resources. However, the case shows that they can still support meaningful heritage education when they work collaboratively with schools, religious institutions, and community knowledge holders.

Through this process, the learning trail strengthened students' sense of belonging and encouraged shared responsibility for heritage. Students were not only introduced to local cultural heritage; they were invited to consider their own role in understanding, valuing, and caring for it. At the same time, adult stakeholders became part of the educational process, suggesting that heritage learning can be sustained through local collaboration rather than museum resources alone.

5. **Discussion**

This study set out to explore how a participatory experiential learning trail, collaboratively developed among a school, a temple, a museum, and the local community, could support heritage education for young learners in a local museum context. The findings demonstrate that integrating experiential learning with participatory museum principles can transform local heritage knowledge into structured learning content, reposition students as active local learners, and expand the role of a small local museum as a connector between school, temple, and community. This discussion interprets the findings in relation to experiential learning theory (Kolb, 2015), the participatory museum framework (Simon, 2010), the Woraphob mechanism (Cusripituck et al., 2024), and broader discussions on heritage education and museum learning.

5.1. **Experiential Learning and the Transformation of Heritage into Learning Content**

The first finding shows that local heritage knowledge became meaningful learning content only after it was selected, interpreted, and transformed into structured experiential activities. This finding supports Kolb's experiential learning theory, which emphasizes that learning develops through direct experience, reflection, conceptualization, and application (Kolb, 2015). In this study, the learning trail operationalized experiential learning by guiding students through activities that required them to observe objects and places, ask questions, discuss meanings, and reflect on the relationship between heritage and local life.

Rather than treating heritage as fixed information to be transmitted, the trail transformed museum objects, sacred spaces, community narratives, and local knowledge into learning resources. This process helped students connect abstract ideas about cultural heritage with tangible objects, places, and practices within the museum and temple environment. The learning trail therefore functioned not only as a route through space but also as a pedagogical structure that organized local heritage into meaningful learning experiences.

Importantly, the findings suggest that experiential learning was particularly effective because it was embedded in a familiar local context. By situating learning within a temple and museum that were connected to students' own community, the trail reduced the distance between museum content and students' everyday lives. This supports arguments in heritage education that learning becomes more accessible when young learners engage with concrete objects, clear interpretation, and experiences connected to their own context (Brajčić & Kuščević, 2022; Laçin-Şimşek & Öztürk, 2021).

5.2. **Participation and the Shift from Knowledge Reception to Meaning-making**

The second finding demonstrates that the learning trail repositioned students from passive museum visitors to active local learners. This shift can be understood through Simon's participatory museum framework, particularly the movement from individual engagement toward collective meaning-making (Simon, 2010). Students were not positioned merely as recipients of expert knowledge. Instead, they were encouraged to observe, question, draw, discuss, interpret, and propose ways to care for local heritage.

The use of social objects was central to this participatory process. Museum objects, local tools, architectural features, ritual spaces, and community narratives became catalysts for dialogue and interpretation. These objects encouraged students to express their own ideas while also listening to the perspectives of peers, teachers, the Buddhist monk, and community members. In this sense, learning shifted from individual content reception toward shared interpretation, reflecting the role of social objects in supporting interaction and participation in museum settings (Simon, 2010).

This finding also highlights the educational value of participation in museum learning. By allowing students to ask questions, propose interpretations, and reflect collectively, the trail created a learning environment in which their voices were valued. This aligns with participatory museum literature that emphasizes the importance of enabling audiences to contribute to meaning-making rather than simply consume institutional narratives (Simon, 2010). For young learners, this participatory approach supported confidence, agency, and a stronger sense of connection to local heritage.

5.3. **Intergenerational Exchange and the Museum as a Community Connector**

The third finding suggests that the museum became a connector between school, temple, and community. This expands the role of the local museum from a site of exhibition to a platform for intergenerational exchange and community-based heritage education. The involvement of teachers, students, the Buddhist monk, museum representatives, and local community members enabled heritage knowledge to circulate across different generations, institutions, and forms of experience.

Intergenerational exchange enriched students' understanding of cultural heritage by situating objects, stories, and practices within lived experience and local memory. Community members and the monk contributed perspectives that were not always visible in formal museum displays, while teachers helped connect these perspectives to educational aims. Through this process, heritage was presented not as distant or static information, but as living knowledge connected to belief, memory, place, and community life. This supports the view that museums can serve as informal and non-formal learning environments that encourage visitor engagement with objects, activities, and museum experiences (Brajčić & Kuščević, 2022). At the same time, the dialogue generated around objects, stories, and places reflects Simon's concept of social objects as catalysts for interaction and shared interpretation (Simon, 2010).

This finding also suggests that participatory heritage education can strengthen students' sense of belonging. When students encountered heritage through familiar places, local stories, and community voices, they were able to recognize cultural heritage as part of their own environment. At the same time, adult stakeholders were not merely supporting a school activity; they became co-creators of the learning process. This shared responsibility is particularly significant for small local museums with limited resources, where long-term educational impact often depends on collaboration rather than institutional capacity alone (Ateş & Lane, 2019).

5.4. **Implications for Heritage Education in Local Museums**

The findings of this study have several implications for heritage education practice and research. First, they suggest that learning trails can function not only as instructional tools but also as participatory processes that support collaboration, dialogue, and collective meaning-making. When designed through co-creation, a learning trail can move beyond guiding students through physical space to facilitating experiential and social learning.

Second, the study highlights the value of integrating experiential learning and participatory museum practice. Experiential learning provided the structure for students to engage directly with objects, places, and narratives (Kolb, 2015), while participatory practice created opportunities for dialogue, interpretation, and shared ownership (Simon, 2010). This integrated approach is particularly relevant for young learners, who benefit from hands-on experience as well as opportunities to learn with and from others.

Finally, the study contributes to broader discussions on inclusive and context-sensitive heritage education. The case of Wat Phra Borommathat Sawi Museum demonstrates that small local museums can support meaningful heritage learning even with limited institutional resources when they collaborate with schools, temples, and community knowledge holders. While the study focuses on a single case in Thailand, the principles underlying the participatory experiential learning trail may be adapted to other local museum and community-based heritage contexts seeking to connect young learners with local cultural heritage.

6. **Conclusion**

This study began from the problem that small local museums often preserve rich cultural heritage knowledge, but this knowledge does not automatically become meaningful learning content for young learners. In the case of Wat Phra Borommathat Sawi Museum, local heritage existed in multiple forms, including museum objects, sacred places, community narratives, local wisdom, and memories held by community members. However, these resources required interpretation, selection, and educational design before they could become accessible and relevant to upper-primary students. The study therefore addressed the question of how a small local museum, school, temple, and community could collaboratively transform local cultural heritage into an experiential learning trail.

The article argues that a participatory experiential learning trail can function as a bridge between school-based learning and local cultural heritage. Through Participatory Action Research, the study showed that heritage learning became more meaningful when museum

objects, community narratives, sacred landscapes, and local knowledge were collaboratively interpreted as learning resources. The final design transformed scattered heritage knowledge into a ten-point learning trail that encouraged students to observe, question, discuss, reflect, interpret, and propose ways to care for local heritage. In this process, students were repositioned from passive museum visitors to active local learners, while the museum became a connector between school, temple, and community.

The contribution of this study lies in demonstrating how small local museums with limited institutional resources can support inclusive heritage education through collaborative and experiential design. Rather than depending only on formal exhibitions or expert-led interpretation, the study shows that local museums can become participatory learning platforms when they work with schools, religious institutions, and community knowledge holders. This approach can be applied by other local museums and community-based heritage sites that seek to connect young learners with local cultural heritage in ways that are accessible, participatory, and rooted in everyday life. More broadly, the study offers a practical model for transforming local heritage from static museum content into a living resource for education, belonging, and shared responsibility.

This article demonstrates that small local museums can become meaningful learning platforms when local knowledge is collaboratively transformed into structured learning experiences. The case of Wat Phra Borommathat Sawi Museum shows how schools, temples, museums, and communities can work together to connect young learners with local cultural heritage through participatory and experiential learning. This model may be applied in other local museum contexts seeking to foster dialogue, belonging, and shared responsibility for heritage.

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INCLUSION AND DIVERSITY IN TURKISH HIGHER EDUCATION: BETWEEN POLICY COMMITMENT AND INSTITUTIONAL PRACTICE

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Abstract

Diversity, equity, and inclusion have emerged as priorities at the tertiary level worldwide, particularly in contexts characterized by increasing student heterogeneity due to internationalization and accessibility in higher education institutions (HEIs), migration, and population movements. Türkiye presents a case in this global landscape for its highly centralized higher education governance structure, and growing diversity across linguistic, socioeconomic, disability, and contemporary migration-related dimensions. Despite comprehensive legal frameworks and policy commitments that emphasize equity and access, evidence suggests that inclusive implementation in Turkish higher education remains uneven. The issue of diversity in Turkish universities is multidimensional, encompassing ethnic–linguistic groups, multilingual instruction, religious minorities, gender distribution, regional inequalities, and disability status. This chapter examines inclusion in Turkish higher education through a multi-layered framework that integrates policy analysis both on the national and institutional levels. It further elaborates on mapping diversity dimensions, structural and institutional challenges and promising institutional practices. Thus, it presents an overview of inclusion and diversity practices in Turkish higher education, drawing on national legislation, institutional policies, research trends, and available examples of good practice. By synthesizing legal, institutional, and research-oriented perspectives, the chapter further analyses institutional illustrative cases from both private and state universities, highlighting practices related to social integration, student support, disability services, and gender equality and diversity policies. By situating Türkiye as a salient case, the chapter contributes to international debates on inclusive higher education and underscores whole-university approaches that bridge the gap between policy commitment and lived inclusion.

Keywords

Inclusive Higher Education, *Diversity and Equity*, *Turkish Higher Education System*, *Accessibility*, *Inclusion*

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Diversity, equity and inclusion (DEI) have become central concerns in contemporary higher education systems worldwide. Universities are increasingly expected to expand access for all groups in society. Thus, they try to ensure that students from diverse linguistic, cultural, socioeconomic, and ability backgrounds can participate in academic, social, and institutional environments. The large-scale growth of higher education participation (OECD, 2020, p. 17; Özoğlu et al., 2016, pp. 22-23), increased international student mobility (see e.g. Demir et al., 2025; de Wit & Altbach, 2021), and growing recognition of structural inequalities (Egede, 2024) resulted in policies and implementations to tackle the issue. As a result, higher education institutions are now evaluated not solely on academic performance but also on their capacity to foster inclusive environments and equitable institutional cultures.

National higher education systems respond to inclusion in distinct ways, shaped by governance structures, legal traditions, and socio-political contexts. Türkiye represents a particularly unique case within this global landscape. Its higher education system is centralized under the authority of the Council of Higher Education (CoHE). At the same time, it is experiencing rapid expansion, diversification of the student population, and increased internationalization (Yücel, 2023). Growing numbers of international and migrant students, and increasing enrolment of students with disabilities, led Turkish universities to face complex inclusion-related challenges that extend beyond access to questions of participation, belonging, and institutional responsibility (Demir et al., 2025; Dereli, 2022; ECEPAA, 2024; Sakız & Woods, 2015). Despite its centralized character, Turkish higher education is diverse in its policy implementation. The extent to which institutions respond to inclusion differs, with some demonstrating stronger engagement than others.

Türkiye has taken various steps to develop a more inclusive higher education setting, such as establishing a framework for people with disabilities. Also, it has implemented successful policies to include female students in higher education (OECD, 2022, 2024). However, Türkiye remains relatively underrepresented in international academic attainment on inclusion and

diversity in higher education. Existing studies have largely focused on specific populations, such as students with disabilities or migrant students, or on isolated institutional practices, often without situating these within broader governance, policy, and systemic contexts (Palaz et al., 2023; Sakız et al., 2020). Research on inclusion as a multidimensional, institution-wide phenomenon in Turkish higher education remains limited.

The current chapter seeks to address this gap by providing a contextualized analysis of inclusion and diversity in Turkish higher education. It surveys policies in national research literature and illustrative institutional practices. At the same time, it examines how inclusion is framed in Türkiye's legal and regulatory environment, how diversity is manifested across higher education institutions, and how universities respond through organizational structures, support mechanisms, and policy initiatives. Attention is given to certain barriers, such as language, disability, socioeconomic inequality, and digital inaccessibility which continue to shape students' experiences despite formal commitments to equality (Dereli, 2018, 2022; Gençtürk & Korkut, 2020; Nazır & Ozcicek, 2022; Sirel et al., 2012). Thus, it aims to contribute to the growing literature by placing DEI in Turkish higher education in legal and institutional contexts. In addition, the chapter draws on selected institutional examples to demonstrate how inclusion is translated at the university level within a centralized system. Rather than presenting these practices as universally transferable models, the chapter critically reflects on their potential and limitations. By situating Türkiye in global discussions on inclusive higher education, the chapter seeks to contribute to comparative understandings of how inclusion is negotiated in centrally governed higher education systems.

To examine how national mandates align with institutional outcomes, this chapter adopts a qualitative narrative policy-literature review combined with a purposive institutional case analysis. Considering the changing regulatory conditions under the CoHE (CoHE), a narrative framework was selected to synthesize contemporary national directives alongside local institutional realities. Literature and legislative sources were chosen for review based on their intersection with three dimensions: Disability accessibility frameworks, international student integration strategies, and institutional gender equity plans. Material selection was limited to public policy decrees, strategic reports, and peer-reviewed literature published within the last decade, providing a current assessment of the Turkish higher education landscape. Thus, the document pool for the research was assembled using search parameters across official websites. Literature and institutional 'good practices' were selected for inclusion based on their relevance to equity, accessibility, or international student integration; their alignment with national internationalization strategies; the presence of documented structural or pedagogical frameworks that offer models for other institutions.

1. Conceptual and Policy Framework of Inclusion in Turkish Higher Education

Inclusion is a relatively new concept, although discussions related to it began earlier. It can be said that the initial focus was more on the rights of disabled persons and has changed towards the integration of various groups (Nilholm & Göransson, 2017, p. 438). The term inclusion appears later in the 1990s and does not represent only a 'linguistic shift', but also a 'new agenda' (Vislie, 2003, p. 18). The Salamanca Statement in 1994 set a framework and helped to define inclusive education globally. However, inclusion today has gone beyond abilities and considers groups from various backgrounds (Rapp & Corral-Granados, 2021, s. 425). This chapter refers to inclusion from a general perspective and to UNESCO for an operational definition. Thus, "inclusion refers to the practice of ensuring that individuals from diverse backgrounds and abilities are actively integrated and valued within various social contexts … emphasizing equitable access to opportunities and resources." (UNESCO, n.d.).

Inclusion in higher education is often conceptualized as a multidimensional process that encompasses equitable access, meaningful participation, and the removal of structural, cultural, and pedagogical barriers that hinder student success (Filippou et al., 2025, p. 3). Contemporary approaches emphasize institutional responsibility and transformation that go beyond needs-based understandings of diverse groups and adopt frameworks that consider diversity as a component of academic life (Taff & Clifton, 2022). Within this perspective, inclusion is closely intertwined with equity and diversity, requiring universities to redesign policies, practices, and cultures in response to heterogeneous student populations. Higher education is one mechanism that can play a significant role in promoting social justice and equality. Given globalization, demographic changes, and internationalization, higher education institutions in Türkiye have begun to host a diverse student body; therefore, ethnic, linguistic, religious, national, and socioeconomic diversity have become topics of discussion on academic platforms (Taneri & Özbek, 2023). Today, diversity and inclusion in higher education are not only about students from different backgrounds sharing the same location but also about successfully managing the challenges that come with it by embedding appropriate methods and mechanisms and inclusive approaches.

CoHE sets out the frameworks and regulations ranging from the promotion of higher education institutional staff to international student affairs. However, the legal foundations of inclusion in Turkish higher education are anchored in constitutional frameworks that emphasize non-discrimination and equality before the law. The Turkish Constitution guarantees equality regardless of language, ethnicity, religion, gender, or belief, and affirms the state's obligation to ensure that this equality is realized in practice. Complementary legislation in education, labor, and criminal law further prohibits discrimination and highlights equal access to educational opportunities.[1] International human rights conventions ratified by Türkiye reinforce these principles, and their application is framed in national constitutional contexts

[1] Constitution of the Turkish Republic, Article 10. The Turkish Penal Code, Articles 3/2, 24, 115/1.

(Isbir & Çubuk, 2018; Yücel, 2023). The legal structure is further reinforced by international human rights conventions, which are translated into national legal contexts. Within the education system, the principle of equal opportunity is formally embedded in national education law, which defines educational institutions as open to all without distinction and prohibits any form of privileges (Milli Eğitim Temel Kanunu, 1973).[2] These principles are operationalized through policies addressing disability, gender equality, and international student participation. However, research indicates that translating legal commitments into institutional practice remains uneven across universities (Palaz et al., 2023).

As stated before, the conceptualization and implementation of inclusion are shaped by a distinctive governance structure. CoHE holds authority over academic organizations, quality assurance, accessibility regulations, and internationalization policies across all universities. This centralized model enables the establishment of uniform regulatory standards, but to some extent it also restricts institutional autonomy in developing inclusion strategies in context (Yücel, 2023). As a result, universities often implement inclusion-related initiatives within narrowly defined national frameworks and lack comprehensive, institution-specific approaches and applications.

Inclusion related to disabilities represents one of the most institutionalized areas of inclusive policy in Turkish higher education. Regulations issued by CoHE mandate the establishment of Disabled Student Units at universities and define institutional responsibilities related to accessibility, reasonable accommodations, and support services (Yükseköğretim, 2010). National initiatives such as the "Engelsiz Üniversite" (Barrier-free University) framework aim to incentivize universities to improve spatial, educational, and socio-cultural accessibility (Yücel, 2023, p. 350; YÖKAK, 2023). While these efforts have supported institutional awareness and infrastructure, empirical studies highlight gaps between formal provision and students' experiences, particularly regarding assistive technologies, staff awareness, and the consistency of accommodations (Gençtürk & Korkut, 2020; Sevinç & Çay, 2017). Inclusion policies and practices for people with disabilities are thus a typical example that demonstrates the divergence between legislative frameworks and their translation into institutional contexts.

Inclusion policies in Turkish higher education overlap with internationalization agendas (for further information, see Yücel, 2023). The rapid growth of international and migrant student populations has led institutions to establish units and regulations to manage issues related to internationalization. While these measures contribute to resolving challenges related to campus diversity, they frequently prioritize administrative coordination and mobility targets over broader inclusion strategies that address language support, intercultural integration, and social belonging (Nazır & Ozcicek, 2022; OECD, 2018; Yıldız, 2023). Therefore, internationalization functions both as a driver of diversity and as a source of new challenges.

Gender equality constitutes another prominent policy domain. In response to European higher education frameworks and Erasmus-related requirements, many universities have adopted Gender Equality Plans or policy statements emphasizing non-discrimination and

[2] Basic Law of National Education, Article 4 was amended in 2014 and included "disabilities".

equal opportunity in recruitment and promotion. However, research on Türkiye reveals that these plans often remain symbolic and have limited impact on institutional cultures, leadership positions, and academic career trajectories (Adak, 2018; Altınoluk, 2018; Atay, 2023; Caner et al., 2016). This shows that, despite an increase in female participation in universities and academia, they are highly underrepresented in senior and leadership positions, leading to a lack of female voices in decision-making processes.

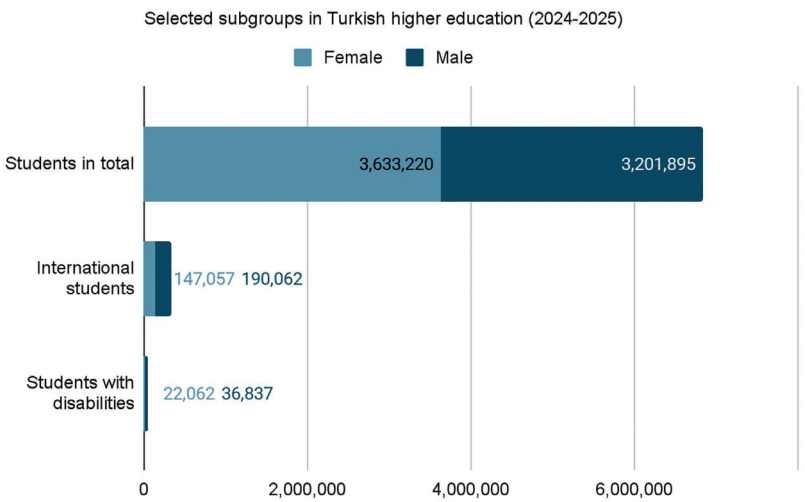
Consequently, the policy framework governing inclusion in Turkish higher education reflects a strong normative commitment to equality, supported by comprehensive legislation and centralized regulation. On the other hand, the gap between policy intent and institutional practice remains an issue that needs to be addressed. Inclusion is frequently addressed through discrete, compartmentalized initiatives, such as disability units, international offices, or gender action plans, rather than through integrated strategies. This fragmentation leads to ineffective management of inclusion and, at the same time, underscores the importance of examining how diversity is structured within the system and how inclusion is experienced in practice.

2. **Diversity in Turkish Higher Education: Mapping its Dimensions and Related Challenges**

Driven by global dynamics of digitalization, internationalization, and migration, educational institutions in Türkiye, from early childhood education to higher education, serve increasingly diverse student populations. Furthermore, the expansion of universities across regions has also contributed to this growing diversity in higher education (Özer, 2024). Today, universities in Türkiye host students from a wide range of linguistic, cultural, religious, socioeconomic, and educational backgrounds, positioning campuses into multifaceted social and academic hubs.

Figure 1

2024-2025 Turkish Higher Education Student Population



Source: Distribution of higher education students in Türkiye. Adapted from Yükseköğretim istatistikleri [Higher education statistics], by Council of Higher Education (CoHE), n.d., (https://istatistik.yok.gov.tr/).

Statistical data drawn from CoHE clearly illustrates the scale of diversity in the system (Fig. 1). According to CoHE (n.d.), in the 2024–2025 academic year, the total number of students enrolled in higher education (from associate degree to doctoral level) reached 6,835,115, of whom 3,201,895 were male, and 3,633,220 were female. Among this population, 337,119 were international students (190,062 male and 147,057 female), reflecting Türkiye's position in the world's top 10 host countries for international students, with learners from 182 countries and regions, highlighting the multilingual and multicultural nature of the Turkish higher education system (TİHEK, 2025). In addition, 58,899 students (36,837 male and 22,062 female) in higher education were identified as having disabilities, indicating the need for accessible learning environments and inclusive pedagogies (CoHE, n.d.).

Beyond disability and gender, other forms of diversity, such as religion, ethnicity, race, color, nationality, and language, also require attention, despite the lack of precise statistical data. Another important source of diversity in Turkish society stems from diverse ethno-linguistic backgrounds (e.g., Kurdish, Arab, Circassian, Syriac). Linguistic diversity in Türkiye includes not only different languages but also dialects, accents, and sign languages, underscoring the importance of language-sensitive and inclusive educational approaches. These realities demonstrate the need not only for coexistence but also for the effective management of diversity through inclusive, culturally sensitive, and equitable educational practices (Acar-Ciftci, 2019; Yıldırım, 2019). However, as research consistently emphasizes, diversity does not automatically translate into inclusion (Tienda, 2013). Mapping the dimensions of diversity within Turkish higher education is, therefore, a necessary step toward understanding how inclusion can be ensured at universities.

One of the key factors in reshaping diversity in Türkiye is the rapid expansion and involvement across regions and social groups, with total enrollments close to 7 million students, surpassing OECD averages (Özer, 2024). Although this growth has increased access and diversified student population, also leading to more women's enrollment and graduation rates than ever, it has also amplified institutional inequalities and already-existing disparities in academic resources, infrastructure, and student support, putting pressure on universities to meet the increasingly diverse demands of their students within their constrained institutional resources (Yücel, 2023).

Another important source of diversity within Turkish higher education stems from ethnic, linguistic, and cultural differences. Universities host students from a range of ethno-linguistic backgrounds, including Kurdish, Arab, Circassian, Syriac/Assyrian, and several other minority communities (e.g. Laz, Zaza, Armenians). Although official higher education statistics do not provide any concrete data on ethnicity, national and international research highlights the presence of these groups and the educational challenges they encounter, particularly in relation to language and cultural recognition (Dogan & Karaosmanoglu, 2025; Sakız et al., 2020). Survey-based estimates indicate that approximately 83% of the population is Turkish-speaking, 14% Kurdish-speaking, and 2% Arabic-speaking or 1% other languages. Around 69% of Kurdish speakers live in eastern and southeastern regions. Also, studies document Arabic-origin students' Turkish language-learning experiences in university language centers (TÖMER), highlighting linguistic diversity and adaptation needs (Nazır & Ozcicek, 2022). Research on the experiences

of the Syriac community highlights inclusion challenges across the education system. Linguistic diversity is especially salient, as Turkish remains the dominant language of instruction, and academic success is closely linked to proficiency in academic Turkish.

Religious diversity is another factor that explains the diversity in Turkish higher education. Despite the Muslim-Sunni majority, campus populations also include Muslim-Alevi and non-Muslim students, reflecting broader societal pluralism. While universities are formally secular institutions, research suggests that students from minority religious backgrounds may experience subtle forms of exclusion, including cultural invisibility and perceived discrimination (Sakız et al., 2020). Although these experiences are not always institutionally explicit, they may affect students' sense of belonging and engagement with campus life.

In a similar vein, socioeconomic background also remains a key factor influencing access and experience in Turkish higher education. Students from low-income families, rural areas, and underdeveloped regions face disadvantages stemming from financial constraints, limited academic preparation, and limited access to social capital (Tombul, 2007). Enrollment patterns reveal significant regional disparities, with higher concentrations of students in major urban centers and lower participation rates in less developed provinces (CoHE, n.d.).

In terms of gender diversity, Turkish higher education has achieved near parity in student enrollment, with a slight female majority in recent years (CoHE, n.d.). However, numerical gender equality does not necessarily imply equitable experiences or outcomes. Research demonstrates persistent gendered patterns across fields of study, academic careers, and leadership positions, with women underrepresented in senior academic and administrative roles (Adak, 2018; Caner et al., 2016). Moreover, gender equality initiatives at the institutional level often prioritize formal compliance over cultural transformation.

As for students with disabilities, they (n. 58,899) represent a growing yet still underrepresented population in Turkish higher education. National data indicate that tens of thousands of students with registered disabilities are enrolled in universities, supported by regulations mandating accessibility and accommodation (YÖKAK, 2023). The establishment of Disabled Student Units across institutions reflects an important institutional response to disability-related diversity. Nevertheless, empirical studies consistently report gaps between formal provisions and students' lived experiences. Challenges related to physical accessibility, assistive technologies, disclosure processes, and staff awareness remain widespread, contributing to uneven inclusion outcomes across institutions (Gençtürk & Korkut, 2020; Sevinç & Çay, 2017).

Finally, the growing number of international students has become an important source of diversity in Turkish higher education. With more than 300,000 international students enrolled, Türkiye has emerged as a regional hub for higher education mobility (UDEF, 2024). While internationalization policies have expanded diversity, research suggests that international students often encounter language barriers, administrative complexities, and limited opportunities for meaningful interaction with domestic students (Nazır & Ozcicek, 2022). The dimensions outlined above show that the Turkish higher education system is marked by both widespread diversity and dispersed efforts at inclusion.

3. **Good Practices in Turkish Higher Education Institutions**

Although the nature of inclusion in Turkish higher education remains uneven, an increasing number of universities have enhanced their institutional practices to stretch their boundaries towards a more comprehensive and systematic approach to DEI. Internationalization agendas, involvement in European and other international projects, and academic collaborations with international networks have strengthened their initiatives. As social integration is a significant component of a successful academic environment, Turkish universities strive to ensure that students from diverse backgrounds feel welcome and culturally supported on campus. The evolving good practices mentioned below are context-specific and dynamic and may not generalize to the entire system of Turkish higher education. The selected notable institutional practices are illustrated in this section across three interrelated areas: Social integration and student support mechanisms; disability support and accessibility; and *institutional gender equality policies*. Services aimed at creating a more inclusive environment are provided through Cultural centers and student clubs, Multicultural events and festivals, and Counselling and psychosocial support units. Drawing on examples of several state and private universities, the following section illustrates how they perceive and implement inclusion under a centralized higher education system.

The institutional cases that were assessed in this section, including Istanbul Bilgi University, Atılım University, Middle East Technical University, Çukurova University, and Necmettin Erbakan University, were selected via purposive sampling. Rather than looking for universal scalability, these universities were chosen to represent key dimensions within the centralized Turkish system. First, they capture the legal and operational differences between state institutions operating under public budgeting limitations and private foundation universities using autonomous resource flexibility. Second, they represent variations in infrastructure; some have expansive regional public campuses facing physical accessibility barriers whereas others own modern campuses implementing universal design principles. This diversity of profiles allows for a multi-layered evaluation of how centralized policy is reflected in local practice.

Social integration and student support mechanisms are prominent elements of inclusive higher education, which foster a sense of belonging, engagement, and sustainability. The research indicates that social and cultural inclusion in campus life plays a major role in students' educational success (Bulut-Şahin & Eriçok, 2023; Nazır & Ozcicek, 2022).

The available literature suggests that access to academic resources is not a determinant of educational achievement; instead, social and cultural inclusion decisively shapes life. Several Turkish universities have launched student-centered support systems to assist mainly international students and migrants, as well as domestic students. The mechanisms include orientation programs, peer mentoring systems, intercultural events, and counselling services to address students' academic and psychosocial needs. There has been a considerable increase in the number of orientation and advisory programs for international students, integrating academic guidance and social integration activities coordinated by international offices and student clubs. These efforts are consistent with global findings that emphasize the relevance of peer-based and relational support models in enhancing inclusion (United Nations

Educational, Scientific, and Cultural Organization [UNESCO], 2021). To illustrate, İstanbul Bilgi University has invested in the structures of student life, focusing on participation, student representation, and intercultural dialogue. The institution strives to foster an informal space for interaction across cultural and linguistic diversity through student-led events, workshops, and campus-wide initiatives. While these practices have positive outcomes on campus climate, studies indicate that the effectiveness of these programs relies significantly on institutional support and staff participation over time, as opposed to one-time programming (Yanıkoğlu & Kılıç, 2025; Yücel, 2023). At state universities such as Middle East Technical University, Çukurova University, social integration initiatives are often embedded within broader student affairs frameworks and project-based activities. Although resources may restrict scope and continuity at certain intervals, participation in national and international projects has contributed to the development of activities, particularly for disadvantaged student groups. These examples underpin that social integration practices are highly contingent on institutional capacity and leadership priorities.

Disability support and inclusion represent the most institutionalized aspect of inclusive practice in Turkish higher education. It is supported by the national regulations mandating accessibility and accommodation (Yükseköğretim, 2010). All universities require the Disabled Student Unit to organize support services, create awareness and foster accessibility standards. However, the quality and size of such units vary significantly among institutions (Gençtürk & Korkut, 2020). It affirms the right to education for all, as guaranteed by Article 42 of the Constitution of the Turkish Republic. This article is related to the implementation of the principle of "No one shall be deprived of education and learning". Türkiye'deki Özel Eğitim Hizmetleri Yönetmeliği (Regulation for Special Education Services in Türkiye) (2018) defines inclusive education as "special education services which are based on the principle that individuals maintain their education with normally developing peers in public and private preschool, primary, secondary and formal educational institutions with the help of supportive educational services". The lack of referral to higher education in the definition may be due to a bureaucratic lack of coordination between the Ministry of Education and the Higher Education Board, stemming from the understanding that the Higher Education Board should issue regulations. The purpose of higher education in Türkiye is defined as 'training students according to their interest, competence and abilities in parallel to science policy and need for human resources of the country, conducting research in scientific fields... emitting informative scientific data to the community both verbally and in written documents, and providing formal education services' (TÜBİTAK, 2023).

Considering this critical function of universities, providing all individuals with the opportunity to utilize this educational service equally becomes a main function of the state (Kalyon, 2012). Individuals with disabilities have serious problems related to accessing higher education or obtaining a qualified education. Despite efforts, the current conditions fall short of meeting the educational needs of individuals with disabilities who wish to be co-educated with typically developing peers in the field of study they prefer. Having seen these needs, one of the most significant steps taken is the publication of the Regulation for Disabilities

Consultation and Coordination in Higher Education Institutions and the establishment of Disability Support Units. The purpose of the so-called regulation is to take precautions and make decisions to make higher education processes easier for students with disabilities. Although universities have these support units, the quality of services provided to students with disabilities is questionable.

As a good example, Atılım University has developed accessibility initiatives that extend beyond physical infrastructure to include academic accommodations, awareness-raising activities, and collaboration with academic staff. Necmettin Erbakan University also anticipates aspects such as the introduction of inclusive design principles and the creation of personalized support systems. Its practice highlights the urgency of timely communication between students, teachers, and the management. However, empirical evidence indicates that even carefully designed institutional infrastructures can be ineffective when accommodations rely heavily on student self-disclosure and bargaining with faculty (Sevinç & Çay, 2017). There remain other concerns, as in the case of Çukurova University. The exceptional size of the university and the age of the campus infrastructure block the implementation of accessibility initiatives at this institution and pose a structural challenge to adopting universal design principles. Despite these challenges, initiatives supported by national quality assurance frameworks, namely accessibility audits, have contributed to progressive implementation (YÖKAK, 2023). These cases illustrate that disability support practices are necessary but insufficient without broader pedagogical and organizational transformation.

Institutional DEI approaches focus on gender equality. Gender Equality Plans (GEPs) are a relevant policy tool which, in most cases, is developed in accordance with the requirements of Erasmus+ and Horizon programs (Adak, 2018).

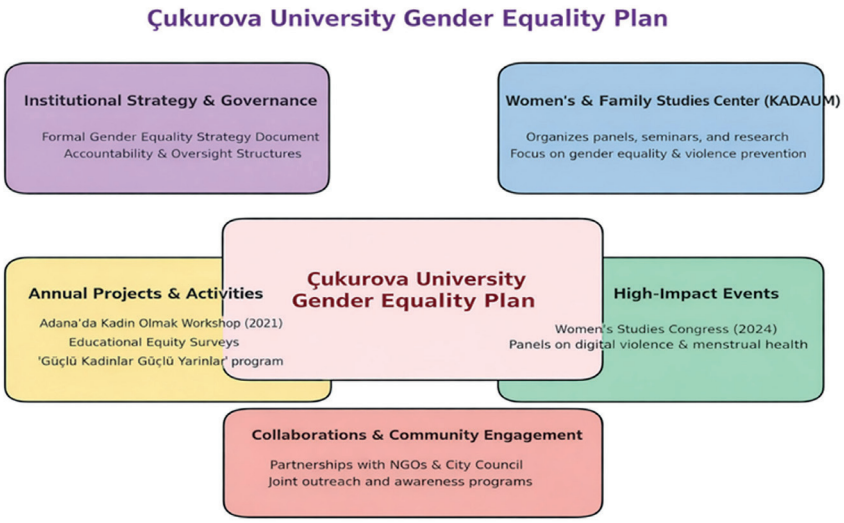
O'Neil's (2023) findings on GEPs at Turkish universities demonstrate that approximately 40 institutions have GEPs. Of the 39 institutions, there is nearly an even number of public (51.4%) and private (48.6%) institutions, ten of which are classified as research universities, and four GEPs were developed as part of EU-funded projects. Although the current academic models focus on raising awareness, data monitoring, and institutional responsibility towards practices linked to gender equality, studies suggest that the effectiveness of these practices depends on their integration into decision-making procedures and leadership frameworks, rather than their symbolic adoption alone (Caner et al., 2016). Bilgi University has pursued a more explicit DEI discourse, incorporating gender equality, diversity awareness, and academic freedom into institutional identity and strategic planning. This approach aligns with international models emphasizing the role of institutional culture in inclusive practices. However, as national research indicates, private universities' capacity to innovate in this area is often linked to greater institutional autonomy and resource flexibility, raising questions about scalability across the public system (Adak, 2018).

In contrast, DEI initiatives at Çukurova University reflect the dynamics of a large public institution operating within centralized governance structures. Gender equality and diversity-related activities are frequently project-based and dependent on individual leadership

or external funding. While these initiatives contribute to visibility and awareness, their sustainability remains vulnerable to institutional change. The figure below depicts the GEP of Çukurova University.

Figure 2

Çukurova University Gender Equality Plan



Source: Çukurova University Gender Equality Plan (Çukurova University, n.d.).

The practices of these selected universities illustrate a transition within Turkish higher education. The shift from localized volunteer initiatives to centralized, policy-driven offices, such as formalized international student support centers or institutional disabled student units (Engelsiz Üniversite birimleri), reflects a professionalization at the institutional level. While national CoHE frameworks provide the legislative incentive, these cases demonstrate that institutional implementation remains subject to an institution infrastructure and resource allocation. Consequently, these cases show that while diversity and inclusion are becoming priorities across Turkish higher education, the operational realities look different depending on whether an institution is a state or foundation university and has the necessary means to execute them.

In conclusion, with diversity more evident in Turkish universities, where a wide range of students and experiences are accommodated, inclusion has brought about challenges that need to be addressed through the implementation of national policies and the utilization of appropriate contextual practices. The current literature on inclusion and diversity in Turkish higher education indicates significant advancement, with accessibility issues widely discussed; however, other aspects of inclusion require contextual exploration. There is a necessity for research that adopts integrated, intersectional, and institution-wide perspectives, linking policy analysis with empirical investigation of practices and experiences. The centralized regulations establish frameworks for accessibility and non-discrimination. The existing research suggests that students' lived experiences of higher education are shaped by intersecting linguistic, structural, socioeconomic, and technological barriers (OECD, 2020; Palaz et al., 2023). These barriers reveal institutional and policy gaps that need to be systematically addressed to move beyond compliance toward transformation.

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APPLYING UNIVERSAL DESIGN FOR LEARNING IN CULTURAL HERITAGE EDUCATION: SCHOOL AND MUSEUM ENVIRONMENTS

Anida MANKO

APPLYING UNIVERSAL DESIGN FOR LEARNING IN CULTURAL HERITAGE EDUCATION: SCHOOL AND MUSEUM ENVIRONMENTS

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Abstract

Universal Design for Learning (UDL) is an educational framework designed to create inclusive and accessible learning environments tailored to the diverse needs of all students. The application of UDL principles enhances both the quality and equity of education. It is especially important to apply these principles in museum programs as well, so that all students can equally benefit from the richness of cultural heritage. As a setting for experiential learning, the museum offers a unique opportunity for students to engage directly and actively in their own knowledge construction, contributing to deeper understanding and sustained connections with the subject matter. This chapter presents a practical application of the Universal Design for Learning (UDL) principles through the example of two lessons in the subject Culture of Living (primary school subject in BiH focusing on practical life skills, social competencies and cultural knowledge). The lessons covered the following topics: Traditional costumes in Bosnia and Herzegovina and architecture of the traditional Bosnian house. For the purposes of the study, each lesson was delivered in two distinct environments: Museum and school. In the museum, students were able to engage with authentic artifacts such as traditional costumes and models of vernacular architecture. In the school classroom, physical artifacts were absent but multimedia and other instructional materials were used. The preparation of the museum-based lesson was grounded in UDL principles, incorporating multiple means of representation, expression, and engagement to ensure the inclusion of all students regardless of their different needs and learning styles. Assessment of students' knowledge before and after instruction demonstrated improved understanding in both contexts, with students participating in the museum-based lesson achieving significantly higher outcomes. Interaction with authentic objects further increased students' motivation and engagement. The findings confirm that applying the principles of UDL contributes to more accessible and effective cultural heritage education and underscore the importance of applying diverse instructional methods and learning settings to create an inclusive educational environment. The chapter provides recommendations for applying UDL principles in cultural heritage education and offers guidelines for further development of inclusive practices in museum environment.

Keywords

Universal Design for Learning, *Student Achievement*, *Museum*, *Cultural Heritage*, *Inclusive Education*

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Quality in education can be achieved only when adequate and equitable opportunities for participation and learning are systematically provided for all students. In addition to schools, which are the primary actors in the educational process, it is essential to consider other contexts and opportunities that may contribute to improving the overall quality of education. Of particular importance is the development and enrichment of programs that foster curiosity, creativity, and active student engagement. To ensure an inclusive, stimulating, and accessible learning environment, Universal Design (UD) offers a set of principles and tools that provide equal opportunities for all students, regardless of their individual characteristics and needs. UD has broad applicability in the creation and adaptation of products and spaces across a variety of sectors, including educational institutions, service industries, recreational centres, multimedia and conference facilities, museums, laboratories, and digital platforms (Burgstahler, 2019). Its versatility has facilitated its integration into the educational context, highlighting the importance of establishing connections between educational institutions and cultural organizations. In this regard, the present paper examines the role of museums in teaching elements of cultural heritage through the application of Universal Design for Learning (UDL) principles in education.

Through joint planning and implementation of activities, curators and teachers achieved a clear example of effective teamwork within a museum environment. Students engaged with cultural heritage through two lessons on *Traditional costumes in Bosnia and Herzegovina* and *Architecture of the traditional Bosnian house*, with activities designed in accordance with UDL principles and implemented in an authentic museum environment that provides realistic insights into everyday life and the values of past eras. The lessons were structured in line with UDL principles, allowing for multiple modes of content representation and adaptation to students' individual needs. Students' active engagement and motivation were further enhanced using multiple means of content representation and interpretation during the museum visit. A distinctive feature of this approach lies in the fact that such practice is still not common in museums in Bosnia and Herzegovina. The findings indicate positive effects of conducting les-

sons in a museum environment and confirm that carefully designed lessons grounded in UDL principles can significantly contribute to the development of knowledge, attitudes, and values that educators seek to foster in students.

1. **Applying Universal Design for Learning in a Museum Environment**

Recent approaches to understanding the role and significance of museums reflect the recognition that it is no longer sufficient for museums merely to preserve and exhibit objects; rather, they must provide audiences with opportunities for communication, education, and inquiry through programs developed in collaboration with schools. In line with contemporary educational concepts, museums should reflect and implement models that align with the context of exhibitions and the activities they prepare. One such approach is the concept of Universal Design for Learning (UDL), derived from the broader concept of Universal Design (UD). The concept of UDL in education is grounded in recognizing and creating environments in which the right to education, aligned with learners' needs, specific characteristics, and diversities, serves as the primary motivation for applying Universal Design (UD) principles in practice. The concept continues to evolve through ongoing interactions among researchers, educators, and learners, prompting changes in theory and practice, in learning environments, and in the media used to support UDL (Meyer et al., 2014). UDL has most frequently been applied and studied in school environment (as cited in Al-Azawei et al., 2016; Courey et al., 2012; Kozma, 2003, as cited in Kennette & Wilson, 2019; McGhie-Richmond & Sung, 2012, Smith, 2012). However, the application of this concept should extend to a much broader scope. This paper examines the implementation of UDL in a museum environment. While research focused on the application of UDL in museums exists (Davidson et al., 1991, as cited in Reich, 2014; Rappolt-Schlichtmann & Daley, 2013), no studies to date have specifically addressed the application of UDL in a museum environment with the explicit aim of connecting specific instructional and pedagogical content within the formal curriculum with museum-based learning experiences. Dewey believed that learning in museums can occur in ways analogous to learning in schools. He argued that museum experiences and everyday life experiences could be unified by both bringing the museum into the community and incorporating the community into the museum (Hein, 2004). Establishing partnerships between schools and other institutions that are pedagogical and educational in nature, such as museums, galleries, and theatres, can create new opportunities for teaching and learning. Applying UDL within museum spaces provides an alternative framework for designing museum programs and exhibitions (Rappolt-Schlichtmann & Daley, 2013). At the Museum of Science in Boston, the application of Universal Design (UD) to enhance accessibility alongside the implementation of Universal Design for Learning (UDL) principles, was realized. The world's first exhibition developed according to these principles was *New England Habitats*, featuring tactile models, audio components, and sensory adaptations (Davidson et al., 1991, as cited in Reich, 2014). The implementation of Universal Design was further advanced through the

Universally Designed Museum Programming project, which sought to provide activities inclusive of individuals with disabilities, foster community engagement, and integrate Universal Design (UD) principles throughout the museum environment. By adopting this approach, the museum ensured that a wider range of visitors, including those with diverse abilities and interests, could actively participate in selected activities (Goss et al., 2012). Rappolt-Schlichtmann and Daley (2013) illustrate how UDL guidelines can be used to enhance communication between museums and their visitors, emphasizing that applying these guidelines ensures not only physical access to the museum but also improvements in informal learning experiences.

UDL ensures that learning experiences in museums are accessible to all. It is important to emphasize that universal does not imply "a one-size-fits-all approach"; rather, it reflects the recognition of individual differences while ensuring equal opportunities for participation and learning within the same context through multiple methods tailored to the needs of each learner (Hall et al., 2012). UDL encompasses adaptable teaching methods, formats, materials, techniques, and strategies that facilitate effective attainment of learning outcomes for a broad range of learners with diverse educational needs (Bjelan-Guska & Kafedžić, 2021). Such flexibility in selecting instructional approaches directly informs the preparation of lesson plans, materials, and learning environments, ensuring that they can be used appropriately and easily by the largest possible number of learners (Bowe, 2000, as cited in Scott & McGuire, 2017).

To develop a stimulating educational program, Kisovar-Ivanda (2009) argues that museums should adopt an approach in which:

- Museum-based educational activities are integrated through a school cross-curricular approach.
- Activities are thoroughly planned and structured, including the evaluation of the overall learning process.
- Planning and structuring of educational activities is collaboratively carried out by teachers and museum educators.
- Materials for students are prepared in advance, including clearly defined expected learning outcomes.
- Sufficient time is allocated for the implementation of said activities in the museum environment and time spent in the museum.

Museum learning experiences enable visitors to fulfil their desire for new knowledge, broaden their perspectives, and cultivate novel experiences and emotions. In addition to the above, according to Perry (1994, as cited in Hein, 1998), a museum experience that fosters meaningful learning should encompass six factors: Curiosity, confidence and security, challenge, control, play, and communication. Curiosity should be fostered in visitors in a way that they remain intrigued even after their visit and motivated to return. This can be achieved by acknowledging the value of each visitor and ensuring that they feel welcome and safe in the museum environment.

The time students spend in museums should be strategically organised in the following way (Hein, 2002):

- The visit should have a clear structure, that is a beginning and an end.
- The educational objectives for the visit should be defined.
- The educational program should align with the content presented in the museum and vice versa.
- Exhibits should be presented in a manner that progresses from simple to complex.

Learning can take place through age-appropriate interactive games and communication strategies, as it is important to actively engage the visitors in museum activities. While the need to affirm culture in education has been recognized in international documents, in practice cultural institutions fail to provide adequate programs for educational institutions. Museum resources are significantly underutilized in education, as evidenced by the fact that museum visits in Bosnia and Herzegovina are most often organized as occasional, pre-scheduled school visits, initiated by individual teachers within specific subjects or as part of extracurricular activities. Over the past two decades, there has been an increasing global discourse on the application of UDL principles in education. However, research on the outcomes of UDL implementation has intensified only in recent years. As educational institutions become more familiar with the new concepts and opportunities that arose from implementing UDL principles in education, the need has emerged for reflective researchers to analyse the effects of this concept and explore potential ways to improve its application.

It is important to mention the Dimensions of Quality in Education outlined by UNICEF in 2000. These dimensions are intended to support a comprehensive understanding of the educational system by ensuring quality in work with learners, the creation of accessible learning environments, and the development of adaptable content using diverse instructional methods, with continuous consideration of learning outcomes. When these dimensions are examined through the lens of UDL, it becomes possible to compare their application in formal education and in museum contexts, as presented in Table 1.

Table 1
Dimensions of Quality in Education and Museum Practice

NO.	DIMENSION	EDUCATION	MUSEUM
1.	Learners / Audience	By creating an environment in which all learners feel accepted, students are expected, through the application of Universal Design principles, to demonstrate what they have learned. Such an approach enables teachers to better understand and motivate learners, leading to increased student engagement and improved learning outcomes.	A museum environment that operates in accordance with Universal Design principles and approaches can foster an audience that returns repeatedly in search of new knowledge, provided that all visitors feel equally valued and welcomed within the museum space.

2.	Environment	Teaching inspired by Universal Design is inclusive, creating a safe environment for all learners and encouraging higher levels of engagement. The use of diverse resources within the teaching process contributes to an environment that recognises differences and treats them as opportunities for learning.	The museum environment should be accessible in all domains, with particular emphasis on the readiness of museum staff to respond to the diverse needs of the audience.
3.	Content	The core principle of applying Universal Design in content development is not to alter the content itself, but to achieve the same learning goals for all using diverse strategies.	Museum exhibits should be arranged in a way that allows every visitor to access the necessary information in a manner that best suits their individual needs.
4.	Processes / Methods	Teaching methods, formats, and instructional resources represent a central component in the application of Universal Design in education. Teachers must therefore be familiar with the educational needs of their learners to ensure accessibility and opportunities for active learning and participation for all.	Guidance and communication with the audience in a museum context involve the use of diverse resources as well as varied modes of interaction between curators, the audience, and the exhibition.
5.	Outcomes	The evaluation of achieved outcomes should be diverse, with continuous monitoring of learners' progress, and assessment methods adapted accordingly.	Museums require feedback from their audience and should therefore prepare surveys, quizzes, and online questionnaires aligned with the audience's age, the exhibition theme, and broader elements relevant to the ongoing improvement of museum practice.

The concept of Universal Design for Learning (UDL) is grounded in three core principles: Multiple Means of Representation, Multiple Means of Action and Expression and Multiple Means of Engagement.

Multiple Means of Representation ensure diverse and flexible approaches to presenting content, with particular emphasis on making information accessible to all learners. The first UDL principle can be implemented through a wide range of strategies, including the presentation of information using photographs, graphic representations, and objects; lectures, discussions, and debates, the use of audiobooks and text-to-speech software; the organisation of information into smaller units, the application of materials with varying levels of complexity, the presentation of multiple examples and both concrete and educational experiences; experiential learning, object handling, tactile images, frequent movement, and project-based learning, and others (Johnston, 2014).

Multiple Means of Action and Expression enable learners to demonstrate what they have learned in ways that best correspond to their individual strengths and preferences. Accordingly, teachers as well as museum curators may provide learners with opportunities to present their learning by writing reports, maintaining continuous process-oriented notes, presenting tasks visually, or producing video recordings on a specific topic. During the implementation of these activities, it is essential to ensure sufficient time and access to diverse resources that allow learners to meaningfully present acquired knowledge and skills.

Multiple Means of Engagement can enhance learners' motivation by fostering a learning climate in which each learner is offered choice in selecting ways of working, as well as opportunities for peer learning. Connecting instructional content with learners' lived experience is essential for making learning more meaningful and accessible, a process that can be further supported using practical examples. Learners should be encouraged to participate actively by creating a stimulating and supportive learning environment.

Traditional museum visits, typically conducted through exhibition tours accompanied by guided discussion and reflection, often culminate in a standardized task such as "write an essay about the museum visit." Such visits tend to limit learners' creativity and constrain their ability to respond to pedagogical objectives and intended learning outcomes according to their individual capacities. A common obstacle to applying UDL is the setting of objectives that are unnecessarily tied to specific methods or instructional forms (Meyer et al., 2014). Increasing opportunities for participation, learning, and achievement can be accomplished without altering the pedagogical goals, by instead adapting the ways in which these goals are realized. For instance, learners may be asked to develop a narrative, leaving room for diverse modes of expression, such as audio recordings, video productions, digital tools, or written formats. Therefore, it is crucial to thoughtfully design tasks for students, providing flexible pathways to achieve learning goals that align with learners' needs and capacities. The application of UDL requires systematic planning, organization, and execution of content, which from teachers and museum curators demands a different approach to instruction, creativity in preparation, and a thorough understanding of learners. Implementing the same principles in a museum environment is more challenging due to the diversity of the audience. However, in the context of school visits, applying UDL principles is both justified and necessary. Collaboration between curators and teachers can remove barriers to recognizing learners' needs, as teachers are responsible for understanding their students' capacities and adapting instructional processes accordingly. Consequently, it is essential that museums and schools establish partnerships in the delivery of specific educational content. Primarily, this is justified because museums serve an educational function, while schools are responsible for introducing students to significant cultural institutions; when doing so, such visits ought to be purposeful and carefully planned.

2. **Research Methodology**

The aim of this study was to examine the effects of applying the principles of Universal Design for Learning (UDL) in a museum setting through the teaching of cultural heritage content. The research design included the preparation and implementation of lesson units, systematic observation of their delivery in both school and museum environments, as well as monitoring students' initial and final achievements and their learning experiences.

The research sample consisted of 57 primary school students, one classroom teacher, and two museum curators. In each grade, one class was randomly selected to participate in instruction in the museum setting, while a parallel class from the same grade participated in the delivery of the same instructional content in the school setting. This design enabled a direct comparison between the two educational contexts.

Systematic observation was conducted in real teaching situations during the implementation of lesson units in both environments. The observation was guided by predefined criteria covering lesson flow, teaching methods and forms of work, instructional materials and resources, modes of content presentation, student motivation strategies, as well as the level and forms of student participation and engagement. The study employed systematic observation, descriptive, and comparative methods within a mixed-methods approach. Data were collected using observation protocols and narrative records. The narrative records allowed for descriptive documentation of the teaching process without interpreting participants' motives or intentions, while the protocol contained clearly defined criteria for systematic recording of teaching activities.

Student achievement was assessed using knowledge tests designed in accordance with the implemented lesson units. The tests included various item types such as recall, completion, open-ended, descriptive, and multiple-choice questions, assessing both lower- and higher-order cognitive processes according to Bloom's taxonomy. For statistical data analysis, the Statistical Package for the Social Sciences (SPSS) was used. Descriptive statistical methods were applied, as well as inferential methods (t-test, correlation, and chi-square test). For comparative analysis of observational data, the non-parametric Mann–Whitney U test was used, enabling comparison of two independent educational contexts, the museum and the school, based on the results of lesson observations.

2.1. **Delivery of Lessons on Cultural Heritage through Universal Design for Learning in a Museum Environment**

The subject *Culture of Living*[1] facilitates the development of cultural awareness and understanding of traditional elements within students' own communities by linking past and contemporary life. Lessons covering the topics of Traditional costumes in Bosnia and Herzegovina and Architecture of the Bosnian house are particularly suitable for experiential learning, as

[1] Culture of Living (Bos. Kultura Življenja) is a primary school subject in Bosnia and Herzegovina designed to develop student's practical life skills, social competencies, and cultural knowledge.

they provide students with opportunities to explore both material and intangible cultural heritage through authentic examples. Classroom practice, which primarily relies on oral presentation, discussion, and illustrations, was complemented by an innovative approach through the implementation of these two lessons in a museum environment, forming the foundation of the conducted research.

In the Ethnology Department of the museum, students toured the permanent exhibition. The teacher provided an introductory overview of the topic on the architecture of the traditional Bosnian house, after which the curator guided the students through the exhibition, facilitating a structured discussion. During the visit, students became familiar with traditional construction methods, the materials used, architectural solutions, and customs related to historical modes of living. After the tour, students worked in pairs on pre-planned tasks assigned by the teacher, taking into account their abilities and interests. The tasks included writing a short poem based on the presented information; drawing a contemporary representation of a traditional scene, such as a lunch at the *sinija* (a traditional low table used for communal meals); explaining the function of the *selamluk* (the men's, guest- and business-oriented section of a traditional house); imagining a situation in the *haremluk* (the women's, family-oriented section) and describing the conversation; drawing their own courtyard; answering questions about Bosnian house construction; and creating or performing a short play depicting one of the customs introduced by the curator, such as *ašikovanje* (traditional courtship), *haremluk*, or lunch at the *sinija*.

During the lesson on traditional elements of dress, the curator and teacher presented the different types of traditional clothing, their characteristic components, and the materials used in their creation. Students were tasked with assembling a photograph of a traditional costume in form of a puzzle, locating the corresponding exhibit in the museum, and gathering as much information about it as possible. They documented their work on a worksheet using a mind map, with the option to supplement it with additional data. The museum environment positioned students as active researchers, aligning with the principles of Universal Design for Learning (UDL): Students chose their preferred mode of presentation (written, oral, or visual) and the tasks were differentiated according to individual needs. Examples of good practice included providing oral presentation opportunities for a student with writing difficulties and visual expression options for a student with hearing impairment.

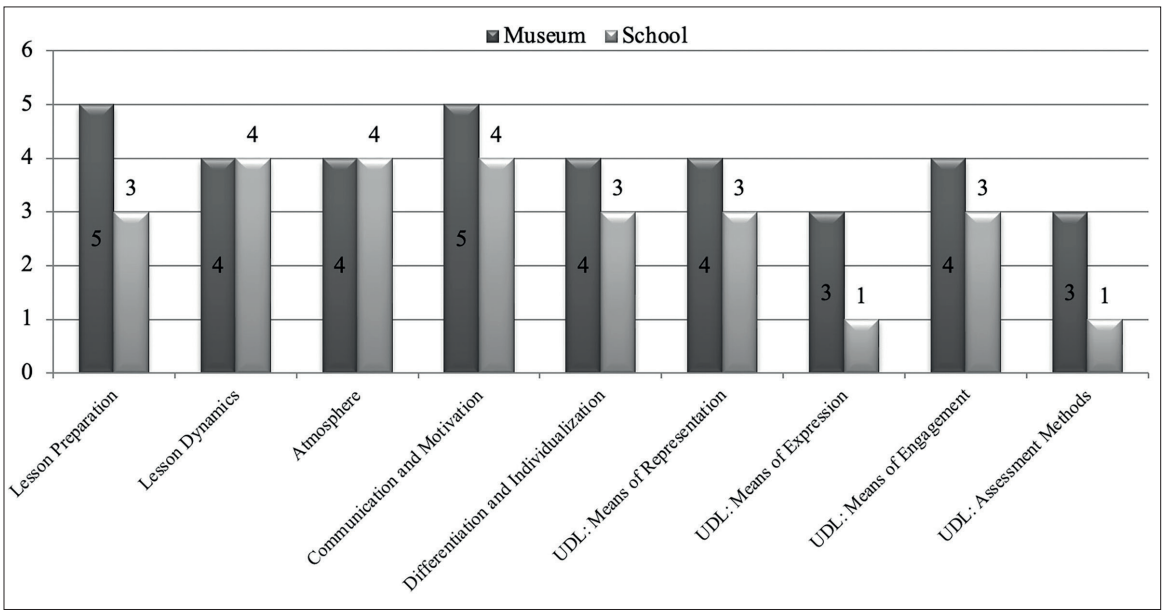
During the planning and implementation of activities, the following elements of UDL were incorporated: Clear oral explanations of key content by the teacher and curator; presentation of material samples used in the making process of traditional clothing; group work adapted to students' abilities; encouragement of student participation in discussions and responses, both orally and in writing; learning through concrete examples; differentiation of tasks within groups; and a final presentation using multiple modes of expression. Special emphasis was placed on peer support and on connecting traditional clothing to students' contemporary life experiences, using examples relevant to their interests.

3. **Research Findings**

The following section presents the results of observations conducted during the delivery of lessons in both museum and school environments. The results are graphically displayed for each evaluated domain, showing the mean score for each dimension. The figure illustrates nine assessed domains across both settings. The analysed dimensions included: Written lesson preparation, lesson dynamics, atmosphere, communication and motivation, differentiation and individualization, multiple means of representation, multiple means of student expression, multiple means of student engagement and motivation, and multiple methods of assessment.

In addition, statistical processing was conducted for each lesson to present the extent to which specific elements were observed in both the museum and the school. Using the Mann–Whitney U nonparametric test, the obtained values from observations in the museum and in the school were analysed and reported.

Figure 1
Observations of the Delivered Lesson in Museum and School Environments: Architecture of the Bosnian House



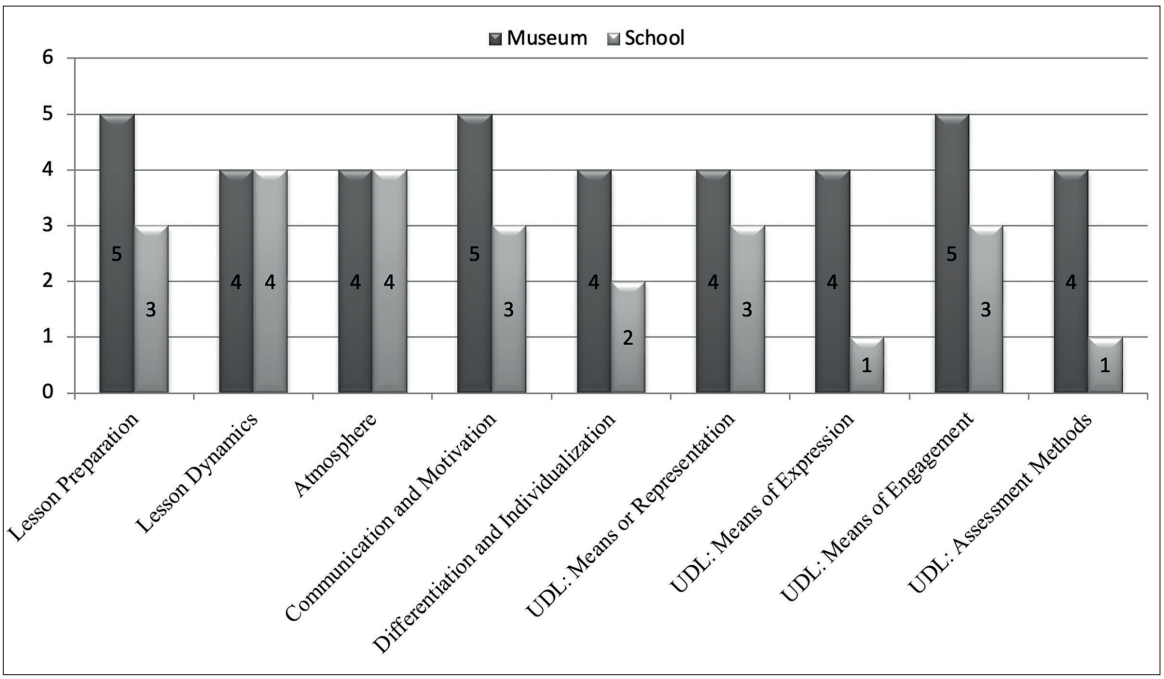
Note: Figure 1 shows that in seven domains, the mean scores for elements present during the lesson were higher in the museum environment compared to the school environment. This was particularly evident in the areas of written lesson preparation, communication and motivation, and the application of differentiation and individualization. Across all dimensions of UDL implementation, higher mean scores were observed during lessons in a museum environment, with the most pronounced differences in the dimensions of multiple means of expression and action, as well as assessment methods. The mean scores in these two dimensions indicate that the necessary elements for UDL implementation were moderately present in the museum, whereas they were entirely absent in the school environment. The dimensions related to multiple means of representation and multiple means of engagement were well represented in the museum, with only minor shortcomings, whereas in the school environment, these dimensions were present only at a moderate level.

Table 2
Application of the Mann–Whitney U Test to Assess Differences in the Delivery of Teaching Content in the Museum and at School Environments: Architecture of the Bosnian House

Learning Environment	Mean Rank	Mann-Whitney U	p
Museum	*103,81*	*2365,500*	*0,001*
School	*71,19*		

Note: The table presents the Mann–Whitney U test value, with statistical significance indicated by the p-value. The results show a statistically significant difference in the implementation of instructional content in the museum compared to activities conducted in school ($p < 0.05$). Lessons conducted in the museum contained more of the necessary elements for effective UDL implementation, ensuring accessibility, opportunities for active participation, and equitable learning experiences.The second instructional unit in the subject Culture of Living focused on folk clothing in Bosnia and Herzegovina. In the Ethnology Department of the National Museum, students had the opportunity to examine five selected exhibits specifically related to particular clothing items, as well as additional artifacts, reflecting the diversity and vividness of the collection in this department.

Figure 2
Observations of the Delivered Lesson in Museum and School Environments: Traditional Costumes in Bosnia and Herzegovina



Note: In the classroom, the lesson was presented in an engaging manner, with the teacher illustrating elements of traditional costumes through concrete examples. This is particularly reflected in the graph for the dimensions of lesson dynamics and content delivery. Figure 2 provides a comparative representation of the mean scores for observed elements in both learning settings. Elements related to lesson dynamics and atmosphere received equivalent mean scores in both settings. However, in terms of UDL implementation, a difference is apparent: the classroom lesson was primarily delivered through teacher exposition, without concrete tasks for students. Consequently, the mean score for assessment methods was lower in the classroom setting.

Table 3
Application of the Mann–Whitney U Test to Assess Differences in the Implementation of Teaching Content in Museum and School Environment: Traditional Costumes in Bosnia and Herzegovina

Learning Environment	Mean Rank	Mann-Whitney U	p
Museum	*110,64*	*1771,000*	*0,001*
School	*64,36*		

Note: The application of the Mann–Whitney U test indicates that the mean values for activities implemented in the museum were higher compared to the school environment. The Mann–Whitney U values are presented in the corresponding table, and the associated p-value demonstrates a statistically significant difference in the implementation of instructional content between the museum and the school ($p < 0.05$). This indicates that elements of UDL were present in the museum environment, effectively meeting the needs of all students.

Statistical data on the evaluated elements of the lessons from the subject *Culture of Living* indicate that, for both topics, lessons conducted in a museum environment, where content was delivered in accordance with UDL principles, demonstrated higher mean scores for the assessed elements during observation compared to lessons conducted in a school environment. For the topic on the architecture of the traditional Bosnian house, museum lessons scored higher in seven areas, while two areas showed equal scores in both settings. Elements related to multiple means of student expression and assessment methods were moderately to fully present in the museum (average score=3), whereas these elements were absent in the school environment. Similarly, for the topic of traditional costumes of Bosnia and Herzegovina, seven areas demonstrated higher mean scores in the museum lessons. In three areas, the required elements were fully present, and in six areas, the elements were rated as very good. In the school environment, only the areas of lesson preparation, communication, and motivation received mean scores indicating that required elements were fully present, whereas in the domains of individualization and differentiation, and the application of multiple means of expression and multiple assessment methods according to UDL principles, the required elements were completely absent during the lesson. The application of the Mann–Whitney U test for the Culture of Living content revealed a statistically significant difference between the museum and school environments, suggesting that implementing UDL principles in a museum context provides greater opportunities for the participation and learning of all students.

For each lesson, initial and final assessments of student achievement were conducted in both museum and school environments. The tests were designed to evaluate not only student performance but also students' experiences and perceptions before and after engaging with the content in the respective settings. Students were required to achieve at least 50% correct answers to be considered as having "passed", while those who scored below 50% were recorded in the tables as having "not passed." A paired samples t-test was performed to compare the performance of the same group of students on the initial and final assessments. The tables present the mean scores of student achievement for the initial and final assessments in

both settings, along with the t-test statistic and the p-value indicating statistical significance. Additionally, six supplementary questions from the final assessment are reported descriptively for each lesson.

Students were required to respond to four questions concerning the implemented content for both the initial and final assessments. The mean scores indicate that students achieved higher performance on the final assessment compared to the initial assessment in both learning settings, which is an expected outcome. Analysis of student performance in the school environment ($t = 7.455$, $p = 0.001$, < 0.05) demonstrates a statistically significant improvement in final test results. A similar pattern was observed in the museum environment, where the t-test ($t = 6.473$, $p = 0.001$, < 0.05) indicates that students achieved significantly higher scores on the final assessment.

The Chi-square test (χ^2) is employed to analyze frequencies of two or more independent samples, with the aim of determining whether the samples differ in the observed characteristics (Petz, 1997). Using the Chi-square test, it was examined whether there is a difference in students' final achievement according to the learning setting, specifically comparing students who participated in museum-based lessons designed according to UDL principles with those who attended school-based lessons.

Table 4

Differences in Students' Final Achievement in Museum and School Environment: Architecture of the Bosnian House

	Result	Setting				Total		p
		Museum f		School f				
		ft	fo	ft	fo			
Final Assessment	Not Passed	11,5	9	7,5	10	19	4,414	0,042
	Passed	5,5	8	3,5	1	9		
Total		17		11		28		

Note: The Chi-square test value ($\chi^2 = 4.414$, $p = 0.042$, < 0.05) indicates a statistically significant difference in achievement between students who participated in lessons in the museum environment versus those in the school environment, as presented in Table 4. For the purpose of the analysis, Fisher's exact test was also conducted and reported as a p-value in Table 4. This test is recommended when expected frequencies are less than five (Bower, 2003).

Using the Independent Samples t-test, the study examined whether there were differences in academic achievement between male and female students in the final assessment in the museum and the school environment. The results indicate that there were no statistically significant differences in achievement with respect to gender, as evidenced by the values obtained in both learning environments (school: $t = 0.459$, $p = 0.653 > 0.05$; museum: $t = 1.647$, $p = 0.134 > 0.05$).

Table 5
Differences in Students' Final Achievement in Museum and School Environment: Traditional Costumes in Bosnia and Herzegovina

	Result	Setting				Total		p
		Museum f		School f				
		ft	fo	ft	fo			
Final Assessment	Not Passed	6,5	3	4,5	8	11	7,867	0,008
	Passed	9,5	13	6,5	3	16		
Total		16		11		27		

An analysis of students' learning experiences during the implementation of the selected lessons in the museum showed that 97.73% of students reported that they would not have preferred this lesson to take place in the school environment. Conversely, the analysis of students' experiences during the implementation of the selected lessons in school revealed that all students (100%) would have preferred the lesson they attended at school to have been conducted in a museum. As reasons for this preference, students stated that learning in the museum would be more engaging and that they believed they would learn more effectively if they had the opportunity to see the exhibited objects, the model of the house, and the interior appearance of traditional elements firsthand. Interestingly, students described the implemented content as interesting in both the museum and the school environments. Fifth-grade students from both classes had previously visited the National Museum and its Ethnology Department; fourteen students reported having visited the museum multiple times, while the remaining students indicated one or two visits. Students who attended the museum-based lessons and those who participated in the school-based lessons were asked to describe how they felt during the delivery of the lesson by selecting up to two emotions from a list of seven or by adding an emotion not listed. In the museum environment, students most frequently reported feeling happy, creative, good, and motivated, while two students reported feeling tired. In the school environment, students most commonly reported feeling good, happy, and creative, with three students indicating that they felt tired. At the end of the instructional process, students were asked to assess their own knowledge following the completed lesson. In the museum environment, students most frequently evaluated their work, knowledge, and engagement as excellent, whereas in the school environment the most common self-assessment was very good. The collected data point to differences in both academic achievement and learning experiences between students who participated in museum-based instruction and those who engaged with the same content in a traditional school environment. The results suggest that within a museum environment, when an accessible learning environment and accessible activities are meaningfully planned and designed, higher academic achievement, greater student motivation, and increased opportunities for creative engagement can be expected.

4. **Conclusion**

Observations of the delivered lessons at the National Museum of Bosnia and Herzegovina indicate that systematically planned learning content can substantially incorporate the principles of Universal Design for Learning (UDL). Lessons designed in accordance with these principles enabled accessibility, active student participation, differentiation, and multiple means of expression. Nevertheless, several areas requiring further improvement were also identified to fully realize the educational potential of the museum environment.

In particular, instructional guidance within the museum and the coordination between teachers and museum curators require enhancement. Collaborative work between teachers and curators needs to be more closely aligned and supported by clear protocols for school visits, ensuring that all participants can respond to students' needs in an effective and coordinated manner. Mutual respect and sustained collaboration are essential for the successful implementation of teaching and learning activities in the museum context.

Rules and expectations should be clearly defined and apply to the overall organization of the lesson, rather than being limited solely to students' behavior toward museum exhibits. Teachers and museum curators should actively attend to students' needs by providing multiple modes of communication and motivation, as well as by encouraging students to connect new information with their prior experiences. At times, this approach was lacking due to time constraints or the absence of motivating and guiding questions posed by museum curators. It was also observed that support in the form of assistive technology and the structured organization of project-based learning activities was insufficient, although such support could have further enhanced accessibility and active learning for all students. Additionally, the duration of a single lesson in the museum proved inadequate to fully satisfy students' curiosity and to enable deep learning. Therefore, it is recommended that additional time be allocated for museum-based instruction.

In conclusion, although the implementation of curricular content in a museum environment requires greater flexibility, creativity, and adaptation on the part of teachers, museum curators, and students, the diverse learning materials designed in accordance with the principles of Universal Design for Learning successfully addressed students' needs, increased motivation, and enabled alternative approaches to learning and engagement. The focus on cultural heritage supported students' deeper understanding of traditional values as well as of tangible and intangible cultural heritage, thereby further enriching the overall learning experience. Further improvement of instructional guidance and coordination is recommended, alongside additional adaptation of content and activities to learners' specific needs and the integration of interactive and project-based tasks. Such measures would allow for the full realization of the educational potential of the museum and ensure an inclusive and engaging approach to learning connected with cultural heritage. Additionally, it is recommended that school visits to museums be made a mandatory component of instruction, particularly for curricular topics that can be directly observed and explored within the museum environment, thereby further enhancing the quality of learning through firsthand experience and direct interaction with exhibits.

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GAME-BASED APPROACHES TO ACCESSIBILITY IN CULTURAL HERITAGE: A LITERATURE REVIEW

Elmas Merve ÖZYURT

GAME-BASED APPROACHES TO ACCESSIBILITY IN CULTURAL HERITAGE: A LITERATURE REVIEW

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Abstract

Digital games and gamification are increasingly being used as tools to enhance participation and interaction in the field of cultural heritage. However, the actual effects of these approaches on accessibility and inclusive learning are addressed in a fragmented and heterogeneous manner in the literature. In particular, the relationship between accessibility strategies and experiential and learning outcomes remains largely at the level of assumptions in most studies. This study aims to examine accessible digital games and gamification applications developed in the context of cultural heritage through a systematic literature review. Following the PRISMA guidelines, the review process involved searching four academic databases. From the identified publications, 12 peer-reviewed studies with full-text access were included in the detailed descriptive coding and thematic analysis. The analysis results show that accessibility in the literature is addressed around three main approaches: (i) Design-based approaches focusing on specific types of disabilities, (ii) inclusive solutions aimed at reducing spatial, technological, or remote access barriers, and (iii) analytical approaches that analyze user diversity based on data. In the vast majority of the studies reviewed, digital games and gamification are positioned as tools for enhancing experience and participation, while learning outcomes are often addressed indirectly or evaluated through inference based on experience indicators. Accessibility is defined more explicitly, particularly in disability-type focused studies, but standardized evaluation criteria and long-term user studies remain limited. Consequently, this study reveals that the relationship between learning, experience, and accessibility in the literature on accessible digital games and gamification in the field of cultural heritage is asymmetrical and highlights the need for comprehensive, evidence-based evaluation frameworks that address these three dimensions together in future research.

Keywords

Cultural Heritage, *Accessibility*, *Inclusive Design*, *Serious Games*, *Gamification*

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Digital games, serious games, and gamification approaches are increasingly being adopted in the presentation and transmission of cultural heritage. These approaches have the potential to create experiential environments that transform visitors into active participants, moving cultural heritage away from being a static and one-way transfer of information. Game-based digital applications, particularly in museums and heritage sites, are considered effective tools for increasing participation, extending visit duration, and sustaining user interest (Luzzi et al., 2025).

The accessibility and inclusivity dimension of digital games and gamification applications developed in the field of cultural heritage presents a heterogeneous and fragmented picture in the literature (Kosti et al., 2025). On the one hand, studies targeting specific user groups, such as those with visual impairments or learning difficulties, address accessibility with concrete design strategies; on the other hand, many studies define accessibility as a more general goal of "access" or "inclusivity" and discuss disability-specific design and evaluation processes to a limited extent (Coelho et al., 2020; Cruz Franco et al., 2022). This leaves open the question of who game-based digital heritage applications are for, under what conditions, and to what extent they are inclusive.

Another recurring issue in the literature is the blurred boundary between learning and experiential outcomes (Juan-Vidal et al., 2024). Gamification and interaction design are often evaluated through experiential indicators such as participation, enjoyment, engagement, and satisfaction; educational outcomes such as learning, recall, comprehension, and cultural value transfer are frequently assumed indirectly (Coelho et al., 2020). Particularly in studies claiming accessibility, it is assumed that improved experience automatically leads to learning; yet little empirical evidence has been offered to confirm this link (Raptis, 2025).

This study examines accessible digital games and gamification applications developed in the field of cultural heritage through a systematic literature review and aims to provide a descriptive and thematic analysis that addresses the dimensions of accessibility, experi-

ence, and learning in these studies. The focus of the study is not so much on the ways in which digital games are used in the context of cultural heritage, but rather on revealing how accessibility is defined through which approaches, how these approaches are reflected in game design and technology choices, and on which assumptions the learning–experience relationships are based.

To this end, the study examined works published between 2005 and 2025 that intersect cultural heritage, digital games/gamification, and accessibility. Following a title and abstract screening, 12 articles with full-text access were selected from the core publications identified and subjected to detailed coding and thematic analysis. The findings point to three recurring ways the literature frames accessibility: (i) Design decisions built around specific disability types, inclusive strategies that reduce access barriers, and analytical, data-driven approaches to cognitive inclusivity. Beyond mapping current trends, this classification exposes notable gaps in how accessible digital games in cultural heritage engage with learning and experiential potential.

The main objective of this study is to systematically examine the accessibility approaches of digital games and gamification applications developed in the context of cultural heritage and to reveal how these approaches are related to learning and experience outcomes. The study argues that accessibility is a multidimensional concept that should be considered not only as a technical feature but also in conjunction with game design, user experience, and learning processes. In this regard, the literature studies are comparatively analyzed in terms of how they define accessibility, which user groups they target, and at what level of evidence they are evaluated.

- **RQ1.** How is accessibility defined in digital game and gamification studies in the field of cultural heritage, and under which main approaches is it classified?
- **RQ2.** How are these accessibility approaches related to game types/game mechanics and the digital technologies used?
- **RQ3.** How are learning and experience outcomes addressed in the studies examined; how is the accessibility–experience–learning relationship established based on which assumptions and levels of evidence, and what are the main gaps?

1. Literature

Digital games and gamification have been receiving increasing attention in the field of cultural heritage, particularly over the last twenty years (Coelho et al., 2020; Ribeiro et al., 2024). Game-based approaches in museums and heritage sites offer interactive experiences that transform visitors from passive recipients of information into active participants (Coelho et al., 2020; Juan-Vidal et al., 2024). In the literature, these approaches appear in various forms, such as serious games, educational games, location-based games, and gamified digital experiences. A significant portion of these studies report findings that game mechanics increase participation, extend visit duration, and strengthen interest in cultural content (Coelho et al., 2020).

However, it is observed that games in the context of cultural heritage are often approached with a focus on experience and motivation, with learning being assumed as a natural outcome of this experience (Ribeiro et al., 2024). Although the emphasis on the educational potential of games is widespread, the conditions under which this potential is realized and for which user groups it applies are not always clearly defined in the literature (Juan-Vidal et al., 2024).

Accessibility is a concept increasingly discussed in cultural heritage literature. Dimensions such as digital access, cognitive access, and cultural participation, in addition to physical access, have gained importance, especially with digital transformation (Kosti et al., 2025). However, there is no singular and consistent definition of accessibility in the literature. Some studies address accessibility through design solutions for specific types of disabilities (e.g., visual impairment, learning difficulties), while others define accessibility more broadly as inclusivity or the expansion of access opportunities (Bavi & Gupta, 2022; Cruz Franco et al., 2022; Noev et al., 2019).

This situation leads to accessibility being supported by concrete design principles and assistive technologies in some studies, while in others it remains more of a statement of intent or a goal. Particularly in cultural heritage applications involving digital games and gamification, accessibility is often interpreted as the game or digital platform being "usable by everyone"; disability-specific needs and evaluation processes are addressed only to a limited extent (Carrizosa et al., 2020; Coelho et al., 2020; Kosti et al., 2025).

In the context of museum technologies, accessibility is a multi-layered concept that encompasses physical, social, cognitive, and emotional dimensions (Carrizosa et al., 2020). Research indicates that the "attractiveness" of a technology—which includes the user's enjoyment and access preferences—is a key driver of its real-life usability. For students with SLD, these immersive technologies further support learning permanence and reading comprehension by engaging them mentally and intellectually through sensory inclusion.

The game-based learning literature has long debated whether digital games can support learning processes. In the context of cultural heritage, this debate is mostly conducted along the lines of informal learning, experiential learning, and awareness raising (Luzzi et al., 2025). Gamification is seen as a tool that motivates users and enriches the experience; learning outcomes are often associated with the quality of the experience (Coelho et al., 2020).

However, the literature rarely draws a firm line between experience and learning as distinct outcomes. While experience indicators such as participation, enjoyment, and engagement are frequently measured, learning outcomes such as knowledge acquisition, recall, or comprehension are reported in a more limited and indirect manner (Ribeiro et al., 2024). This raises the question of the extent to which improved experience contributes to learning, particularly in game-based applications that claim to be accessible (Lozano-Álvarez et al., 2023; Raptis, 2025).

When the current literature is evaluated collectively, three main gaps emerge. First, there is a clear inconsistency in how accessibility is defined and to what extent it is evidenced in digital games and gamification applications developed in the field of cultural heritage. Second, learning and experience outcomes are often considered together; however, the relationship between these two dimensions is rarely presented in a clear and measurable way. Third, there is a limited number of comparable and repeatable analytical frameworks that evaluate accessibility, learning, and experience simultaneously.

These gaps highlight the need for systematic studies that comprehensively evaluate the role of accessible digital games in the field of cultural heritage. In this context, this study aims to analyze existing approaches in the literature descriptively and thematically, addressing the relationship between accessibility, games, and learning within a clearer and more comparable framework.

2. **Methods**

2.1. **Search Strategy and Data Sources**

This study employed a systematic literature review following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to identify research at the intersection of cultural heritage, accessibility/disability, and digital games or gamification. The search was conducted between September 15 and December 10, 2025, across four primary academic databases: Web of Science (WoS), Scopus, IEEE Xplore, and ACM Digital Library

The temporal scope was limited to English-language publications published between 2005 and 2025, a period reflecting the emergence and growth of digital heritage gaming in academic discourse. The search strategy focused on three core concept clusters: (i) Cultural heritage, (ii) accessibility/disability, and (iii) digital games/gamification (Table 1).

Table 1
Keywords used in literature review

Concept Set	Keywords	Why it is used
Cultural Heritage	"cultural heritage" OR museum OR "heritage site" OR "archaeological site"	To identify studies that utilize digital games in the context of heritage.
Accessibility	accessib* OR disability OR "inclusive design" OR "universal design"	To capture studies addressing accessibility, inclusive design, and users with disabilities.
Digital Game	"digital game" OR "serious game" OR "video game" OR "gamification"	To capture studies involving mobile, VR/AR games, serious games, and gamification initiatives.

The main search string was formulated as follows:

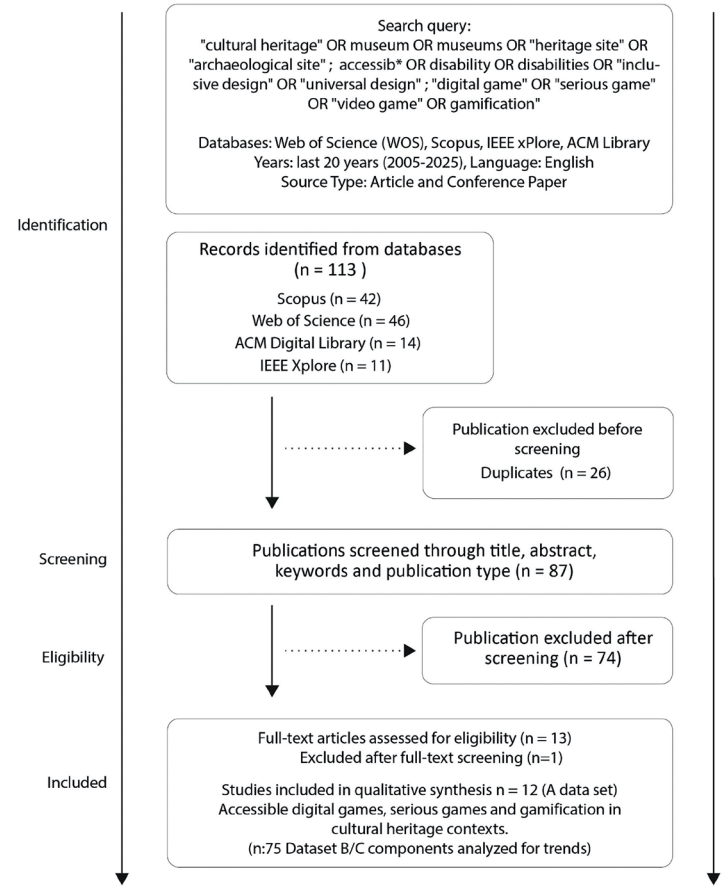
("cultural heritage" OR museum OR "heritage site" OR "archaeological site") AND (accessib* OR disability OR "inclusive design" OR "universal design") AND ("digital game" OR "serious game" OR "video game" OR gamification OR "game-based learning")

2.2. **Selection Criteria and Dataset Construction**

The initial search identified 113 records across the selected databases. Following the removal of 26 duplicates, 87 unique publications remained for title and abstract screening (Table 2). To ensure conceptual coherence, studies were categorized into three mutually exclusive datasets:

- **Dataset A (Core - 12 studies):** This set includes peer-reviewed studies that explicitly and concretely address the triple intersection of cultural heritage, digital games/gamification, and accessibility. Initially, 13 studies met these criteria, but one was excluded due to a lack of full-text access, resulting in a final analytical set of 12 studies.
- **Dataset B (Complementary):** This group comprises studies where the cultural heritage and gaming components are strong, but the accessibility theme is addressed only indirectly, generally (e.g., general "inclusion"), or to a limited extent. These studies were evaluated to reveal general trends in the field of game-based cultural heritage applications, even if they did not deepen the discussion on specific disability-type design.
- **Dataset C (Out-of-Scope):** These are publications that did not meet the triple intersection criteria. They were excluded because they lacked a cultural heritage context, did not feature a game/gamification component, or addressed accessibility only as a very secondary theme.

Table 2
PRISMA Protocol



During the screening phase, 74 publications were excluded for failing to meet the core criteria. Of the remaining 13 candidates, one was excluded due to a lack of full-text access, resulting in a final core analytical set of 12 studies (Dataset A) for detailed content analysis.

The 87 unique publications shown in the diagram were subjected to descriptive analysis (including elements of Dataset B) to determine general trends in the field; however, only 12 studies (Dataset A) with full-text access and fully meeting the triple intersection (cultural heritage, play, accessibility) were included in the in-depth thematic coding.

This structured classification reveals that while there is a growing body of work in digital heritage gaming, explicitly accessible design remains a niche area, representing only about 14.9% of the unique publications initially identified.

2.3. **Coding Framework and Analysis Procedure**

The core dataset underwent qualitative content analysis and thematic synthesis. Coding was structured across six categories: Bibliographic data, cultural heritage context, accessibility dimension, game/gamification features, research design, and findings.

To enhance analytical reliability, an iterative validation procedure was employed. Coding categories were developed deductively from the research questions and refined inductively through repeated engagement with the dataset. Although formal inter-coder reliability was not applicable due to the single-researcher design, consistency was ensured through multiple rounds of recoding, cross-checking analytical decisions, and the use of comparative matrices to track thematic patterns

The study has several inherent limitations. Database selection was limited to four major platforms, potentially excluding relevant works in regional or discipline-specific repositories. The strict inclusion criteria and focus on English-language publications resulted in a relatively small core dataset, reflecting the fragmented nature of the current field. Finally, while iterative internal validation was performed, the single-researcher coding process remains a limitation regarding formal inter-coder agreement.

3. **Results**

Overall, the limited overlap between databases reveals that the intersection of cultural heritage, digital games, and accessibility has an interdisciplinary and fragmented literature. It also confirms that relying on a single database would likely under-represent the field, reinforcing the case for the multi-database approach adopted in this study.

3.1. **Descriptive Analysis of the Full Dataset**

The distribution of the total 87 publications by year shows a clear temporal increase in interest in digital games, gamification, and accessibility in the context of cultural heritage. Only about 10% of the publications were published between 2005 and 2012, with early studies focusing more on digitization and basic interactive applications. A gradual increase in the number of publications was observed between 2013 and 2019, with approximately one-third of the total publications produced during this period.

The most pronounced concentration occurred between 2020 and 2025. More than half of the publications examined were published during this period. This increase can be attributed to the growing need for remote access, the maturation of VR/AR and mobile technologies, and the increased visibility of accessibility and inclusivity issues on the cultural heritage agenda.

Looking at publication types, approximately 55–60% of the 87 publications were conference papers, while 40–45% were journal articles. This distribution indicates that the field has largely developed through application, prototyping, and early-stage evaluations.

In terms of cultural heritage context, approximately two-thirds of the publications focus on museum and exhibition environments. Archaeological sites and historical structures are represented at a rate of approximately 20%, while studies directly addressing intangible cultural heritage remain below 10%. Taken together, these figures suggest that digital game and accessibility research still gravitates toward more controllable, institutional contexts.

Thematically, the vast majority of publications address digital games and gamification in terms of participation, motivation, and experience outcomes. Studies containing concrete accessibility strategies for specific types of disabilities are limited to approximately 20–25% of the total publications. Studies in which learning outcomes are measured directly and systematically are even fewer, at approximately 15%.

The distribution of publications by year and genre was calculated based on a total of 87 unique publications (n=87) obtained from the search. In contrast, the thematic analyses in Section 3.2 and onwards focus on 12 selected core articles (n=12).

3.2. **Descriptive Coding of the Core Dataset**

The descriptive coding of 12 articles shows that the studies are predominantly museum-centered in the context of cultural heritage (Table3). Levels of evidence are divided into 'Empirical Evaluation or Needs Assessment ' (n>100 samples or field testing) and 'Prototype/Framework Proposal' (early stage evaluation). Table 3 highlights the methodological distinction between these two groups and the limitations of empirical studies. While museum-focused studies constitute the majority, a more limited number of studies target more specific types of heritage, such as digital twins of architectural heritage (Cruz Franco et al., 2022), the transfer of intangible heritage values (Juan-Vidal et al., 2024), and tangible object/artifact-based interaction (Başarici et al., 2025).

In terms of accessibility, two distinct approaches stand out: One group of studies addresses accessibility through specific types of disability (visual impairment: Başarici et al., 2025; Bavi & Gupta, 2022; Noev et al., 2019; learning disability/SLD: Materazzini et al., 2024) with concrete design strategies; while the other group of studies discusses accessibility more at the level of general inclusivity and reducing access barriers (remote access, geographical/socioeconomic constraints, spatial access) (Coelho et al., 2020; Cruz Franco et al., 2022; Germak et al., 2017; Juan-Vidal et al., 2024; Kosti et al., 2025; Luzzi et al., 2025; Ribeiro et al., 2024). From a game approach perspective, the literature clearly emphasizes gamification; serious game examples are more limited (Noev et al., 2019; Raptis, 2025), and specific applications such as robotic games are exceptional (Germak et al., 2017).

Table 3
Descriptive Coding of the Core Dataset

Cultural Heritage Context	Accessibility Focus	Game Approach	Evidence / Method Pattern
Museum-focused: The majority (Bavi & Gupta, 2022; Coelho et al., 2020; Germak et al., 2017; Materazzini et al., 2024; Noev et al., 2019; Raptis, 2025; Ribeiro et al., 2024; also Luzzi et al., 2025 rural museum)	The type of obstacle is clear and the target user is focused: Visual impairment: (Bavi & Gupta, 2022; Noev et al., 2019) Learning disability/SLD: (Materazzini et al., 2024)	Primarily focused on gamification: Başarici et al., 2025; Bavi & Gupta, 2022; Coelho et al., 2020; Cruz Franco et al., 2022, indirect; Juan-Vidal et al., 2024; Kosti et al., 2025; Luzzi et al., 2025; Materazzini et al., 2024; Ribeiro et al., 2024)	Empirical Evaluation or Needs Assessment (sample is clear): (Başarici et al., 2025; Germak et al., 2017; Raptis, 2025)
Architectural heritage/ digital twin: (Cruz Franco et al., 2022)	Indirect/inclusive access (general) (Coelho et al., 2020; Cruz Franco et al., 2022; Juan-Vidal et al., 2024; Kosti et al., 2025; Luzzi et al., 2025; Ribeiro et al., 2024).	Serious game module (Noev et al., 2019; Raptis, 2025).	Prototype/framework proposal (empirical limited): (Bavi & Gupta, 2022; Coelho et al., 2020; Cruz Franco et al., 2022; Juan-Vidal et al., 2024; Kosti et al., 2025; Luzzi et al., 2025; Noev et al., 2019; Ribeiro et al., 2024).
Intangible heritage: (Juan-Vidal et al., 2024) Focused on tangible objects/artifacts: Başarici et al., 2025	Cognitive diversity (with an analytical approach): Raptis, 2025	Robotics game: Germak et al., 2017	
Multi-scale/EU-scale heritage ecosystem: Kosti et al., 2025	Spatial accessibility (inaccessible areas): Germak et al., 2017	Educational gamification (the clearest example): Luzzi et al., 2025	

While technologies and platforms vary, mobile/web-based solutions, VR/AR/XR, and 360° content are frequently seen; some studies also include new directions such as artificial intelligence components and explainability (AI/XAI) (Ribeiro et al., 2024; Kosti et al., 2025). Methodologically, the level of evidence is not homogeneous: While some studies present empirical evaluations or needs-assessment data (Başarici et al., 2025; Germak et al., 2017; Juan-Vidal et al., 2024; Materazzini et al., 2024; Raptis, 2025), a significant portion, including Juan-Vidal et al. (2024), remains at the prototype/framework proposal level, and direct field tests with standardized measurement tools and target user groups appear limited in most studies.

The relationship of the studies in the dataset with education is primarily established through informal learning, heritage interpretation, and cultural value transfer in museums, rather than in formal teaching contexts. While a limited number of studies, such as the 'educational virtual tour' and the 'Teach' component of the smart sculpture, directly define learning objectives, the majority treat gamification as a tool that enhances visitor participation and meaning-making processes.

Additionally, studies mostly establish the relationship between learning outcomes and experience outcomes through the mediation model. Gamification and interaction design primarily improve experience indicators such as participation, usability, flow, and presence; this improvement is assumed to support learning indicators such as understanding, remembering, and transferring the value of heritage content. However, in a significant portion of the studies, learning outcomes are not measured directly; instead, experience outcomes are reported more frequently.

As a result of full-text coding, 12 studies were grouped into three main clusters based on how accessibility was defined and at what level of evidence it was addressed:

i. disability-type-focused accessibility,
ii. barrier/access-focused inclusivity,
iii. analytical-adaptability-focused cognitive inclusivity. This classification reveals whether accessibility is positioned as a design feature, an access strategy, or a data-driven adaptation problem.

Cluster 1: Accessibility-Oriented Clustering of Studies

In this cluster, accessibility is explicitly defined through a specific disability/special needs group, and design decisions are shaped according to the needs of this target group.

- **Targeted Needs:** Visual impairment (Başarici et al., 2025; Bavi & Gupta, 2022; Noev et al., 2019) and learning disability/SLD (Materazzini et al., 2024).
- **Common Design Pattern:** Multimodal strategies (especially tactile and auditory; simplified narration; repetition-control mechanics). Başarıcı (2025), focuses on the visually impaired by combining touch and sound with intelligent sculptures (ITTT).
- **Game Approach:** Serious game or gamification; mechanics such as task/quiz/story progression for learning purposes are predominant.
- **Type of Evidence:** Design-based development and partial evaluation; needs analysis Materazzini et al. (2024) is strong; field tests with target users are limited in some studies. While Materazzini (2024) provides a robust needs analysis with responses from over 1300 students diagnosed with SLD, field tests are generally in the prototype stage.

Disability-focused studies describe accessibility strategies most concretely; however, measuring learning outcomes with standardized tools and expanding field tests with target users are insufficient.

Cluster 2: Game Design, Accessibility, and Evaluation Patterns

In this cluster, accessibility is mostly addressed as reducing access barriers (remote access, physical/spatial constraints, geographic/socioeconomic barriers, access to learning opportunities) rather than a specific type of disability.

- **Access Barriers:** Spatial access (Germak et al., 2017), remote access and digitization (Cruz Franco et al., 2022; Juan-Vidal et al., 2024; Ribeiro et al., 2024), access to learning and inclusive pedagogical design (Luzzi et al., 2025), participant access at the field level (Kosti et al., 2025), and opening the experience to wider audiences (Coelho et al., 2020).
- **Technology Pattern:** VR/AR/XR, 360° media, digital twins, web/mobile platforms, AI components in some studies.
- **Game Approach:** Gamification and discovery/quiz/task-based structures are predominant; educational gamification is most prominently structured in Luzzi et al. (2025).
- **Type of Evidence:** Case study, prototype/framework proposal;Juan-Vidal et al. (2024) report a completed cultural-values survey, while application usage-data collection is planned for a subsequent phase. Disability-specific validation is often limited.

While this cluster expands accessibility at the "access" level, the claim of inclusivity can be weakened when there is no disability-sensitive design and measurement approach.

Cluster 3: Learning–Experience–Accessibility Relationships

This cluster addresses accessibility as the problem of data-driven monitoring of user diversity and its translation into adaptive design (Raptis, 2025).

- **Approach:** Inclusion through cognitive variability.
- **Method/Evidence:** Large-sample quantitative analysis; extraction of behavioral patterns from game interaction data.
- **Contribution:** Shows that inclusion is not merely a "design intention" but a measurable phenomenon at the micro level of interactions.

Although the analytical approach offers exploratory evidence, how this evidence can be translated into real-time adaptation and design decisions remains an open research gap in the literature.

Taken together, the three thematic clusters bring the common trends and limitations of accessible digital game and gamification studies in cultural heritage into sharper focus: How accessibility is defined — by disability type, access barrier, or analytical approach — directly shapes design strategies, measurement methods, and learning claims.

Discussion

A cross-cluster reading of the findings suggests that accessible digital game studies in cultural heritage remain largely experience-driven, leaving learning as a secondary and indirectly addressed concern. Accessibility functions as a powerful design lever wherever the target user is clearly defined; in the more access-oriented and analytical clusters, however, this same power rarely translates into concrete design decisions.

The findings reveal that digital games and gamification applications are effective in enriching the cultural heritage experience, but this effectiveness is often evaluated through experience and participation indicators. Learning outcomes are generally addressed indirectly and are not supported by comparable measurement tools consistent with accessibility claims — evidence that the relationship between accessibility, experience, and learning remains asymmetrically established in the literature.

In barrier-type focused studies, accessibility is addressed through concrete design strategies that respond to the needs of specific user groups, and inclusivity is placed at the center of the design process. In contrast, in barrier-focused studies, accessibility is defined more in terms of remote access, digitization, and overcoming spatial barriers; while this approach offers scalable solutions, it limits disability-specific assessments. Analytical approaches make user diversity measurable, but how this data translates into design decisions is often unclear in most studies.

Across the reviewed studies, gamification and game mechanics function chiefly as tools for enriching the experience in the context of cultural heritage. While experience outputs such as participation, motivation, and engagement are frequently reported, learning outcomes are often addressed indirectly or assumed to be a natural result of the experience. This makes it difficult to clearly identify the conditions under which learning occurs in game-based applications that claim to be accessible.

A key point of discussion in the study is the asymmetric relationship between learning, experience, and accessibility. While experience outcomes are central to almost all studies, learning outcomes are evaluated in a more limited and uniform manner. Accessibility is often treated as a prerequisite that enables the experience — a pattern suggesting that the field has not yet reached an integrated, evidence-based evaluation approach.

3.3. **Positioning Accessibility in Design**

Comparing the three clusters side by side shows that accessibility is positioned quite differently across the studies. In the barrier-type focused cluster (Cluster 1), accessibility is considered a core component of design, and tactile, auditory, and cognitive adaptations are clearly defined. In the barrier/access-focused cluster (Cluster 2), accessibility is established primarily through technological and spatial access; while this approach produces scalable solutions, it may limit disability-specific design decisions and target user-sensitive adaptations. In the analytics-focused cluster (Cluster 3), accessibility becomes a measurable variable, but the systematic conversion of these measurements into adaptable solutions through feedback to the design is often lacking. This table reveals that accessibility is treated as a direct design problem in some studies and as a result achieved through the expansion of access in others.

3.4. **The Relationship Between the Game Approach and Accessibility**

While gamification and game-based approaches are common in all three clusters, the level of integration of game mechanics with accessibility goals varies significantly. In Cluster 1, which focuses on barrier types, mechanics such as repetition, control, short tasks, and break-

ing down the story are structured to directly support accessibility and learning; game design is shaped according to the need for access. In Barrier/access-focused Cluster 2, the game is mostly positioned as a tool for participation and motivation; accessibility is reflected in game mechanics to a limited extent and is addressed more through technological access. In the analytics-focused Cluster 3, the game becomes a tool that measures user behavior and makes differences visible; however, transforming these measurements into dynamic systems that adapt game mechanics remains at the suggestion level in most studies. This table shows that gamification exhibits a fragmented structure in terms of intent, implementation, and evidence production in the context of accessibility.

3.5. **Types of Evidence and Evaluation Approaches**

One of the most prominent common limitations across the three clusters is the lack of standardized evaluation tools. In barrier-type studies, user experience and accessibility perception are mostly evaluated using qualitative or subjective data (surveys, interviews, user feedback), limiting the comparability of results. Access-focused studies report experience and participation indicators readily, but say comparatively little about learning outcomes directly; these tend to be inferred from experience-related measurements rather than assessed in their own right. Although analytical approaches have the potential to produce strong quantitative evidence, how this evidence is interpreted pedagogically and how it relates to learning processes is often explained to a limited extent. Therefore, studies that measure accessibility, experience, and learning simultaneously, in a balanced and comparable manner, are rare in the literature.

3.6. **The Relationship Between Learning, Experience, and Accessibility in Three Clusters**

Three thematic clusters show that the relationship between learning, experience, and accessibility is not uniform; rather, it is established through different relationship models.

1. In the 'Relationship Model in the Barrier-Type Focused Cluster', the relationship is mostly established as follows (Fig. 1):

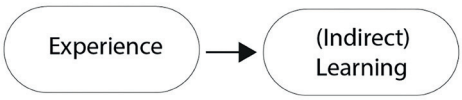
Figure 1
Relationship Model in the Barrier-Type Focused Cluster



Accessibility is considered a prerequisite that enables the experience; it is assumed that learning occurs as the experience improves. Learning is often defined through experiential learning, comprehension, and recall; however, these gains are rarely validated by quantitative tests.

2. The dominant relationship in the 'Barrier/Access-focused cluster relationship model' cluster is as follows (Fig. 2)

Figure 2
Barrier/Access-focused cluster relationship model



It is accepted that gamified experiences increase participation and interest, which in turn contributes to learning. Accessibility is often limited to expanding access opportunities; learning outcomes are addressed at the level of awareness and value transfer.

3. In the 'Analytics-Focused Cluster Relationship Model' cluster, the relationship exhibits a different structure (Fig. 3):

Figure 3
Analytics-Focused Cluster Relationship Model



The three relationship models presented summarize how accessibility is positioned in design. Figure 1 represents the 'Barrier Type Focused' approach, which views accessibility as a prerequisite; Figure 2 represents the 'Barrier Focused' approach, which considers accessibility as a result of overall participation; and Figure 3 represents the 'Analytic' approach, which frames accessibility as measurable interaction data. The fundamental difference between these models lies in whether learning outcomes are considered as direct evidence or as a design potential.

Read together, the three clusters point to three fundamental tensions shaping accessible digital game studies in cultural heritage. When accessibility is approached by type of barrier, design strategies become more concrete and responsive to target user needs; however, this approach is often characterized by limited field validation and insufficient measurement of learning outcomes. In contrast, studies that address accessibility at the level of reducing access barriers and expanding inclusivity produce scalable and technologically innovative solutions; however, disability-type-sensitive evaluation and user-centered validation processes are often weak. Analytical and data-driven approaches strengthen the level of evidence by making accessibility and experience differences measurable; however, the systematic conversion of this data into adaptable design decisions is not yet sufficiently developed in the literature.

User diversity is measured and the experience is analyzed at a micro level. However, it is not yet clear how these analyses can be directly reflected in learning design. Therefore, learning is positioned as a design potential rather than a proven outcome.

The study reveals that the literature on accessible digital games and gamification in the field of cultural heritage has a strong focus on experience, but that learning outcomes and accessibility evidence often remain fragmented. The findings of the discussion indicate that future studies should focus on comparable and verifiable methods that address accessibility, game design, and learning within the same analytical framework.

4. Conclusion and Future Directions

This study systematically examined digital games and gamification applications developed in the field of cultural heritage in terms of accessibility, experience, and learning dimensions, and revealed the fundamental trends in the literature. The 12 studies analyzed in full text demonstrate that accessibility is not treated as a singular approach in the context of cultural heritage; rather, it is positioned as a design problem, an access goal, or a data-driven evaluation area in different studies (Coelho et al., 2020; Kosti et al., 2025; Noev et al., 2019; Raptis, 2025). The research questions of the study are answered as follows:

RQ1: How is accessibility defined in digital game and gamification studies in the field of cultural heritage, and under which main approaches is it classified?

Across the studies examined, accessibility is approached in three distinct ways: Through design decisions built around a specific type of disability, through strategies that widen general access, and through analytical, data-driven treatments of cognitive inclusiveness (Bavi & Gupta, 2022; Kosti et al., 2025; Noev et al., 2019; Raptis, 2025). In the first approach, accessibility is defined through concrete design strategies based on specific user requirements, such as visual impairment or learning difficulties (Başarici et al., 2025; Bavi & Gupta, 2022; Materazzini et al., 2024; Noev et al., 2019). The second approach establishes accessibility as reducing spatial, technological, or remote access barriers and providing access to broader audiences (Coelho et al., 2020; Cruz Franco et al., 2022; Germak et al., 2017; Juan-Vidal et al., 2024; Ribeiro et al., 2024). The third approach treats accessibility as a variable that makes user diversity measurable and focuses specifically on making cognitive diversity visible in a data-driven manner (Raptis, 2025).

RQ2: How are these accessibility approaches related to game types/game mechanics and the digital technologies used?

In disability-type focused studies, game mechanics are more directly integrated with accessibility goals; mechanics such as repetition, control, short tasks, and incremental progress are structured according to user needs, with multimodal interaction (tactile–auditory) and assistive technologies (3D printed replicas, audio narration, etc.) coming to the fore (Başarici et al., 2025; Bavi & Gupta, 2022; Materazzini et al., 2024; Noev et al., 2019). In accessibility-barrier-focused studies, gamification is generally positioned as a tool that increases participation and motivation; technologies such as VR/AR/XR, 360° media, web/mobile platforms, and digital twins expand access, while accessibility is reflected in game mechanics to a limited extent (Coelho et al., 2020; Cruz Franco et al., 2022; Juan-Vidal et al., 2024; Kosti et al., 2025; Luzzi et al., 2025; Ribeiro et al., 2024). In the analytical approach, the game becomes a data production environment that measures user behavior; however, the transfer of these measurements as design feedback to dynamically adaptive game systems often remains at the suggestion level (Raptis, 2025).

RQ3: How are learning and experience outcomes addressed in the studies reviewed; on what assumptions and levels of evidence is the accessibility–experience–learning relationship established, and what are the main gaps?

Experience outputs (participation, motivation, satisfaction, engagement) are the most visible and consistently measured findings across the studies; learning outputs receive far less

direct attention and are typically inferred second-hand from these same experience indicators rather than measured on their own terms (Coelho et al., 2020; Juan-Vidal et al., 2024; Luzzi et al., 2025; Ribeiro et al., 2024). The most common relationship model in the literature assumes that accessibility enables experience and that learning occurs as the experience improves (Fig. 3). However, since this relationship has not been validated with standardized measurement tools in most studies, the levels of evidence remain heterogeneous (Bavi & Gupta, 2022; Germak et al., 2017; Kosti et al., 2025). The main gaps are: (i) The limited availability of common/comparable assessment criteria for accessibility, (ii) the failure to measure learning and experience outcomes together and in a balanced manner, (iii) the scarcity of long-term field tests with target user groups (especially those focused on disability), and (iv) the inability to systematically translate analytical findings into adaptive design (Bavi & Gupta, 2022; Materazzini et al., 2024; Noev et al., 2019; Raptis, 2025).

The three-cluster approach proposed in this study (disability-type focused, access-barrier focused, and analytical inclusivity) provides a functional framework for comparatively evaluating accessible digital game studies in the field of cultural heritage (Kosti et al., 2025; Noev et al., 2019; Raptis, 2025). This framework both highlights the different understandings of accessibility in the existing literature and establishes a methodological reference point for future studies (Coelho et al., 2020; Cruz Franco et al., 2022; Juan-Vidal et al., 2024; Ribeiro et al., 2024).

For future research, three key recommendations emerge for accessible digital games to generate stronger evidence in the context of cultural heritage. First, there is a need to increase long-term and comparative user studies with target user groups (Başarici et al., 2025; Bavi & Gupta, 2022; Materazzini et al., 2024). Second, evaluating learning and experience outcomes together using standardized measurement tools is critical for strengthening accessibility claims (Juan-Vidal et al., 2024; Luzzi et al., 2025). Finally, interdisciplinary approaches that treat accessibility, game mechanics, and technology choices not as independent but as an integrated design process will significantly contribute to the development of inclusive digital experiences in the field of cultural heritage (Cruz Franco et al., 2022; Kosti et al., 2025; Ribeiro et al., 2024).

Limitations

This study has several limitations inherent to systematic literature reviews. First, the database selection, although covering major indexing platforms, may have excluded relevant studies indexed in discipline-specific or regional databases. Second, the restriction to English-language publications introduces potential language bias. Third, the strict application of the triple intersection criteria resulted in a relatively small core dataset, which reflects both the fragmentation of the field and the methodological selectivity of the review.

Additionally, the coding and thematic synthesis were conducted by a single researcher. While iterative validation and reflexive analytical procedures were employed to enhance reliability, the absence of formal inter-coder agreement constitutes a methodological limitation. Finally, as the study focuses on published academic literature, it does not account for grey literature, experimental design projects, or practice-based heritage game initiatives that may contribute to accessibility research in non-academic contexts.

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EXAMINING THE "AWARENESS STREET" PODCAST SERIES AS AN EDUCATIONAL INTERVENTION

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Abstract

This study examines the "Awareness Street (Farkındalık Sokağı)" project -an initiative aimed at raising awareness about individuals with special needs- within the framework of social innovation and new media. As contemporary social problems become increasingly complex, traditional awareness-raising methods tend to have limited reach and impact, which intensifies the need for accessibility and inclusiveness. In this context, the study argues that awareness-raising activities are not confined to information dissemination; rather, they are closely linked to behavior change, participation, and agenda-setting processes in the public sphere. The Awareness Street project is evaluated as an example of social innovation that seeks to produce accurate, up-to-date, and accessible knowledge in the field of special education through digital media tools, particularly the podcast format. The project's content structure, target audience, objectives, and ethical principles are analyzed, and the potential impact of the podcast series on social awareness is discussed. Through qualitative content analysis, the podcast episodes and blog posts were coded and grouped into analytical categories such as awareness-raising, accessibility-oriented communication, inclusive participation, institutional support, and social innovation communication. The findings suggest that podcast-based digital platforms can function as effective tools for increasing public awareness of individuals with special needs, bridging academic knowledge and professional practice, and supporting processes of public understanding and collective engagement. In general, the study concludes that digital awareness initiatives designed from a social innovation perspective make meaningful contributions to inclusive and sustainable social transformation, and that the Awareness Street project represents a feasible and replicable model for such an approach.

Keywords

Social Awareness, *Social Innovation*, *Podcast*, *Social Benefit*

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Social awareness initiatives emerge as a phenomenon that enables the public to be informed about a specific problem and to organize their actions accordingly. In awareness-raising efforts carried out through various methods, activities are implemented not only through face-to-face formats such as conferences and seminars, but also through media-based practices. Rather than attempting to reach every segment of society, it is also observed today that awareness initiatives are increasingly structured as projects conducted through steps taken on the basis of identifying a target audience from a realistic perspective. In awareness initiatives carried out for a specific problem, the aim is to increase active participation regarding a social issue or disadvantaged groups; however, at the most fundamental level, the intention is to establish cognitive support. Such awareness initiatives traditionally consist of campaigns, media content, events, or training programs carried out by non-governmental organizations, public institutions, or activists. Yet, behind all these efforts, it is observed that in the theoretical component that guides the planning of the process, communication and behavior change are addressed as a priority domain. Accordingly, any positive change that can be established -ranging from a person's daily life to their broader life goals- signals that the initiative has been successful.

At this point, one of the most important factors in social awareness initiatives is accessibility. In reaching more people and generating impact, digital media -particularly content on the internet- enhances interaction and participation. This, in turn, introduces a new dimension to social awareness initiatives (Chenia, 2024). With increased participation, individuals are not merely passive recipients; rather, they are positioned as participants who become involved, comment, and share. At the global level, societies continue to struggle with problems such as inequality, environmental unawareness, exclusion, and lack of participation. Among the issues that lead to these social problems are poverty, injustice, the climate crisis, and limitations in education. Indeed, communities are formations that are multidimensional -where details are noteworthy- while also requiring a holistic perspective. For this reason, in designing social awareness initiatives that generate social benefit, the requirement that "each detail

is noteworthy" should be taken into consideration. It is also emphasized that these problems must be evaluated separately for each community and each period of time. Such problems, in fact, point to structural issues that cannot be resolved through traditional methods (Erol et al., 2021). Social awareness initiatives and global frameworks such as the United Nations Sustainable Development Goals (SDGs) underscore the necessity of developing innovative solutions for these issues (Tracey & Stott, 2024). The SDGs prioritize combating existing problems in the world through sustainable trends. Alongside global efforts that encourage social innovation in this way, local social responsibility projects continue to be implemented. In such initiatives, it is observed that the need for innovative solutions to social problems is increasing day by day.

This study does not claim to address social problems within a holistic framework; rather, from a more limited perspective, it examines a project carried out within the scope of social awareness activities directed toward individuals with special needs, who are among disadvantaged groups. The level of social awareness is regarded as one of the fundamental factors influencing the education, social life, and participation in public spaces of individuals with special needs. It is stated that the proper focus on the concepts of "special needs" should not be limited to the field of special education, but is also closely related to education policies, social services, and social attitudes. Today, digital technologies transform the production and sharing of information, bringing new tools into learning processes. In this study, the "Awareness Street" podcast series, a social project associated with the need for social innovation in social awareness initiatives, is examined.

1. **Social Awareness Initiatives**

In the broad domain related to society, unique communities -each with its own culture, geography, and structure-face unique problems. At this point, solving social problems is not necessarily less challenging than identifying them. Each different society implies a multidimensional perspective, distinctive living conditions, and diverse daily habits. In this sense, it is not possible to implement a project within social awareness initiatives without knowing the society. For a successful project with high social impact, the priority is the compatibility of the intended content with the target audience and the design of project implementation in an integrated manner with the public. This is precisely why traditional methods are perceived today as an insufficient function for solving problems. Therefore, approaching a field that is exposed to continuous change with classical and outdated methods constitutes a major obstacle on the path to solutions. For this reason, conducting efforts that understand the drivers of change, proceed with command of the current situation, and aim to understand society directly affects the success of the project.

For example, in a period when correspondence by letter was common, one would not initiate a project aimed at delivering letters to recipients more quickly after the invention of telephones. Similarly, one would not seek a solution -at a time when touchscreen phones have become widespread-ext, it is necessary to act by continuously following current devel-

opments and the agenda, thereby keeping a pulse on society. However, there are also social problems that societies encounter on a global scale. For instance, global problems such as climate change, income inequality, and barriers to access to education require more than face-to-face events in terms of the accessibility of international campaigns. Here, digital content becomes prominent in increasing social awareness at the global level. With the opportunities brought by the information society, the establishment of an understanding of finding solutions to social problems around common reasons encouraged individuals, institutions, and the public to work toward shared goals (Şardağı & Öztürk, 2020). In other words, as a society that acts with an understanding that prioritizes knowledge, social awareness initiatives -like other forms of work- are advanced in a knowledge-based manner. In this context, the need for social innovation emerges not only for a certain segment, but also as a domain that prioritizes the participation of all stakeholders.

Steps toward solutions are taken by collecting data related to the problem that necessitates social awareness and by defining the social reality through these data. However, social awareness initiatives should not be defined merely as information projects, because such a definition pushes the potential of these projects into the background. All projects that encompass awareness-raising efforts directed toward a specific problem primarily serve as the most important initiatives that initiate a process whereby a problem is defined, made visible, and, from a legitimate framework, transformed into collective action. This process is multi-layered and requires an approach that brings together many domains- especially sociology, public administration, communication, and social services. In other words, while awareness initiatives transmit messages, they also open space for meaning-making, agenda-setting, strengthening participation, governance, and policy work. In this axis, social awareness goes far beyond the creation of consciousness.

When the theoretical framework is set aside, such initiatives jointly define a problem and secure its place on the public agenda. Thus, these initiatives have the capacity to play an active role in the development of social policies as well (Şardağı & Öztürk, 2020). In this framework, awareness is not about increasing the awareness level of individual persons, but about turning a particular social problem into a "shared issue" in building common reason and determining a sensitivity agenda. In addition, beyond making social problems visible, content that circulates through certain networks is produced to increase this visibility. Through such content, the agenda that becomes a shared issue becomes even more prominent with the attention of authorities. Therefore, where an initiative that appears to be "informative" can lead depends entirely on diffusion. Particularly, the Turkish literature on digital activism examines how non-governmental organizations and movements gain greater visibility through online networks (Tani, 2018).

Within the scope of awareness projects addressing social problems, Habermas's (1964) "public sphere" approach invites awareness initiatives onto the ground of common reason. Accordingly, as an issue is evaluated in the public sphere in terms of public reasoning and legitimacy production -and as it is questioned through the arguments of different actors- the

necessary ground is established for it to enter the policy agenda. The transition described as the breaking point of social awareness initiatives is the shift from "knowing" to "doing" (Ajzen, 1991). According to the Theory of Planned Behavior, an individual's intention toward a behavior is determined by attitudes, subjective norms, and perceived behavioral control. Therefore, rather than merely providing information, the project transforms perceptions of social norms and strengthens the capacity of "doing" within the individual's actions. In addition, the social marketing approach becomes adaptable to planned social change along the same line (Kotler & Zaltman, 1971).

In sum, social awareness initiatives accomplish much more than awareness-raising activities alone. They can serve as the initiating force of a process that begins with awareness and may even lead to policy production. At this point, it is important to view such initiatives as carefully designed projects. At the same time, it is necessary to approach projects that aim to create awareness as social innovation projects. Indeed, social awareness initiatives that generate social benefit in a sustainable, accessible, and inclusive manner contain within themselves the initiating power of social innovation.

2. **The Need for Social Innovation**

Today, the concept of innovation is intensively discussed across different disciplines. The main reason for the intensity of these discussions is that innovation -understood as "commercial or technological novelty that has gained social acceptance"- has fundamentally transformed many economic, social, and political domains. Due to this role, innovation is regarded as the most important locomotive of economic growth and is also accepted as one of the major factors influencing social change (Özdinç, 2018). The concept of innovation is one of the terms that expresses the emergence of inventive inventions and processes, beginning with industrialization during the Industrial Revolution and extending to new technologies. If a conceptual definition is to be made, drawing on multiple definitions would be beneficial. Accordingly, innovation is defined as the implementation of ideas developed in line with the objectives of organizations (Becker & Whisler, 1967), while Downs and Mohr (1976) describe it as an extraordinary practice. In addition, innovation is also defined as the design, production, management, and commercial activities undertaken for the first-time use of a new product in marketing processes and instruments (Freeman, 1982). According to the Oslo Manual, innovation is expressed as a product or process that is noticeably significant in products and processes within a unit in this field (OECD, 2018). Considering all other definitions as well, for the present study innovation is not only a product or process, but also a result (Özdinç, 2025).

As a result of all these inventions and developments, and alongside the changing structure of society, sociologists such as Max Weber became interested in the social dimension of innovation and laid the foundations of the field of social innovation. Indeed, while communication among people changed with technological developments, interaction across geographies increased with advances in transportation. Along with many other factors, society changed and sectors began to adapt. Subsequently, the applicability of innovative approaches in indus-

try, technology, and science to social problems began to be discussed. For example, Gilfillan examined the impact of inventions on the social domain in 1934 in Sociology of Invention. In another example, Ryan and Gros in 1943 investigated the context of an innovative method developed for an identified social problem in their work titled The Diffusion of Hybrid Seed Corn in Two Iowa Communities.

In exploring new methods by setting aside traditional methods used in solving social problems, the methods employed also diversify within themselves. However, key factors such as sustainability, accessibility, and inclusiveness apply to every solution. Accordingly, social innovation is carried out in a way that can be integrated into every society, both flexible and, in order to ensure continuity, without detaching it from fundamental factors. Indeed, social awareness initiatives are one of the domains of social innovation. For this reason, a social innovation project can also be a social awareness-raising project. When viewed beyond a sector-based perspective, social innovation emerges as a field that acts with a civil society spirit yet must carry the competencies of the entrepreneurship sector. The increasing difficulties experienced by traditional civil society approaches in finding solutions to existing problems support this view. Because, particularly due to continuous change and openness to novelty, solution pathways diversify. The expectations of the younger generation in the digital age and the impact of this on social problems cannot be ignored. As a result of all these, solutions to social problems require alignment with digital transformation, innovation, and sustainability. Traditional civil society approaches did not necessarily expect these, because they had systems that sufficed for problems in earlier times. However, today's needs, the dynamism of developing sectors, and their impact on the social domain are far greater. For this reason, projects that propose solutions must integrate these dimensions. Thus, in a period in which the importance of sustainability is increasing day by day, social awareness initiatives are also expected to be comprehensive and sustainable.

Innovation (in English: innovation), in terms of its etymological origin, means "to initiate change in a predetermined order/system." It derives from the Ancient Greek kainotomia (a combination of kainos meaning "new" and tom meaning "cutting" (Godin, 2006)) and from the Latin inovatus, meaning "the introduction of new methods in the social, cultural, and administrative environment." In its use in contemporary economic literature, it is distinguished from novelty (novelty or Latin novitas). Innovation is not merely novelty; rather, it refers to "novelty that creates value economically and socially" (Elçi, 2007). Özdinç (2018) notes that because socio-cultural factors differ across nations and countries, it may be possible to structure a more successful national innovation system when each country considers its social structure in addition to its economic opportunities. This leads us to the concept of "social innovation." Social innovation can be defined as producing flexible and sustainable improvements that can keep pace with social change. The concept of social innovation has been increasingly discussed, particularly in the last several decades. According to the Scopus online database, from 2010 to 2020 the term "social innovation" was mentioned in peer-reviewed articles 25,014 times compared to approximately 2,135 from 1990 to 1999 and 724 times

from 1980 to 1989. As a category within the general classification, social innovations are widely considered as those that "enhance society's capacity to act" (Mulgan & Pulford, 2011) by providing solutions for social problems and improvements for the quality of life (e.g., Dawson & Daniel, 2010), as well as affecting social change (e.g., awareness patterns, social values, and norms) (Davies, 2014; Moulaert, 2013; Mulgan, 2006, 2007; Murray, 2010; Phills, 2008; Westley, 2013).

Social innovation has gained significant attention in the early 21st century with the rise of social entrepreneurship and the growing recognition of the role of innovation in addressing social issues. Social innovation refers to the development and implementation of new ideas (products, services, and models) that simultaneously meet social needs and create new social relationships or collaborations. It may arise differently across cultures and places, hence the need to understand how local contexts influence the types of innovations that emerge (Nicholls & Ziegler, 2019).

3. **Developments in New Media**

In the past, media communication carried out through tools such as newspapers, letters, and telegraph underwent a significant transformation as traditional media entered a process of digitalization. The widespread adoption of digital media has led to communication forms being reshaped both structurally and functionally. In particular, the easy accessibility of social media platforms, their structures centered on user interaction, and their fast-consumable content formats increased their visibility; this, in turn, resulted in the emergence of many digital platforms. Content shared through these platforms includes not only text, visual, and video formats, but also listenable content such as podcasts and audio broadcasts. While such content is primarily used for information and entertainment purposes, it also undertakes the function of supporting social awareness and educational activities. Digital media has thus become a multidimensional domain that goes beyond being merely a communication tool, diversifies learning processes, and transforms public debates.

3.1. **Podcasts**

The emergence of the term "podcast" is explained as follows: it derives from the combination of Apple's portable media device "iPod," released on 23 October 2001, and the English word "broadcast," which refers to the transmission or diffusion of content. The Merriam-Webster Dictionary defines a podcast as "a program (as of music or talk) made available in digital format for automatic download over the internet" (Merriam-Webster Dictionary, 2021). From the day podcasts were introduced to the present, even if they have not followed a consistently increasing trend, they have attracted many listeners. As a result of their easy accessibility and instructional nature, podcasts have reached more listeners over time, while diversifying the topics they address. The resurgence of podcasts has led to the emergence of many podcasts addressing niche audiences across a wide range- from true crime to highly specialized scientific topics (Scott, 2023).

In such diverse domains, podcasts -often with educational content- also provide significant convenience for users in content consumption. With the ability to access content anywhere via smartphones, and the possibility to listen to podcast content featuring expert guests in their areas of interest, podcasts have strengthened the relationship between educator and learner in the education sector and have relatively reduced barriers such as time and space. One of the most important benefits of podcasts is "flexible accessibility"; this feature allows users to listen to lessons at times that suit them and also provides additional autonomy, such as pausing and rewinding to listen again (Grunow, 2020). Furthermore, podcasts offer significant potential by enabling differentiation in learning within the online classroom environment (Cooper, 2008). By providing each user with a personalized learning experience, podcasts have accelerated the educational process. Podcasting is a hybrid of forms, one that is both a platform and an identifiable collection of practices and characteristics. It is also a space that unlike broadcasting or platforms such as YouTube is self-governed by participants, listeners and intermediaries, and so is capable of being both mass market and incredibly niche with all the inherent diversity that may be involved (Berry, 2016).

3.2. **Podcasts in Education**

The pedagogical value of podcasts is not limited only to accessibility; they also offer a structure that increases learning motivation, supports learner autonomy, and appeals to multiple learning styles. Enriching audio narration with elements such as storytelling, emphasis, and intonation can make learning experiences more effective and more durable. Podcasts serve as a bridge between specialized scientific domains and the general public, as demonstrated by their use in conveying complex topics. They can appeal to a wider audience by combining expert content with relatable real-life examples and can improve listeners' understanding of particular issues (Rehman et al., 2024). This characteristic makes podcasts a strategic communication tool, particularly in terms of simplifying academic knowledge and bringing it into the public sphere. Podcast content produced by academics, experts, and practitioners contributes to the democratization of knowledge by making scientific information accessible.

4. **The Awareness Street Project: We are aware, we listen, and we see!**

Implemented in collaboration with the Republic of Türkiye Ministry of National Education (MoNE) Konya Provincial Directorate of National Education and Necmettin Erbakan University; led by the Development Team of Selçuklu Special Education Practice School (Third Level); and supported by Konya Metropolitan Municipality Social Innovation Agency (SIA), the "Awareness Street" project stands out as a platform aiming to build social awareness. It is useful to refer to the Social Innovation Agency, which supports the project and aims to create social awareness focused on social benefit. Social Innovation Agency, established in 2020 through the collaboration of Konya Metropolitan Municipality and Necmettin Erbakan University, is among the institutions conducting social benefit–oriented initiatives.

It operates as an institutional structure that aims to develop innovative solutions to social challenges. In line with its mission of societal transformation, the Agency designates a specific thematic focus each year. Within this framework, it carries out research, development, and innovation processes particularly in the fields of cultural industries, civil society, and social impact.

In addition to project development activities, the Agency provides various support mechanisms such as space allocation, publishing opportunities, research support, and thesis assistance, thereby contributing to projects that generate social benefit. Through these mechanisms, it fosters an interaction network centered on production, literature, and practical implementation in the field of social innovation. Guided by its motto, "Building a Solution Space," the Agency conducts efforts to establish data-driven decision-making mechanisms while implementing ecosystem-building programs aligned with its social benefit priorities. These programs aim to equip participants with 21st-century competencies. In this respect, the Agency approaches the use of public resources in social development processes with a high-impact generation perspective.

The platform provides informational content for anyone interested in the field, primarily the parents and teachers of individuals who require special education. Within an understanding that supports lifelong learning for students, families, and teachers, the project acts with the belief that "It is worth walking with children with special education needs." The "Awareness Street" platform is a digital education and awareness initiative aiming to increase awareness regarding special education and children with special needs and their education. Through podcasts and digital content, this initiative seeks to address the issue of special needs in its social, educational, and institutional dimensions. The platform focuses on filling information gaps in the field of special education and on providing accessible awareness content to anyone who wishes to specialize in this field.

Awareness Street was designed with the objectives of increasing social awareness about the daily life and education of individuals with special needs, providing information about the living conditions and needs of individuals requiring special education, and strengthening a sense of solidarity among families, educators, and the public. In this direction, up-to-date and academic content is provided through digital media tools, particularly in the podcast format. Within the Awareness Street platform, six blog posts have been shared on the project's website. In the Awareness Street podcast series, the benefits of podcasts as an easily accessible and asynchronous learning tool were utilized. In this way, it was aimed to increase societal awareness regarding children with special needs and to provide clear, reliable information on the topic to the public through open access. In this project, which is conducted by experts in the field regarding the education of students with special needs, the guests hosted in the podcasts also consist of individuals who work in relevant areas and are experts in matters related to the education of children with special needs.

This project, which aims to provide accurate, up-to-date, and accessible information regarding the education of individuals who require special needs support, seeks to strengthen an inclusive, egalitarian, and awareness-based perspective in society. In this direction, digital

content is treated as an educational intervention tool and is used as an effective instrument that supports learning processes by increasing access to information. The Awareness Street project primarily aims to reach professionals working in special education; those who wish to specialize in this field; undergraduate students studying special education; preservice teachers who are studying and will study in other teaching fields; first and foremost the family members and close circles of individuals with special needs; and subsequently everyone. Because having special needs is not a "problem," but rather a condition of living together that must be learned and certainly acknowledged.

4.1. **Methodology**

The primary research question of this study is defined as the evaluation of the "Farkındalık Sokağı" (Awareness Street) project as a social innovation initiative within the scope of public awareness activities. In this context, the project is examined as a digital social innovation initiative contributing to awareness-raising processes for individuals with special needs. The study employs a qualitative case study design to examine the "Farkındalık Sokağı" podcast series, which has become prominent among public awareness initiatives in the field of special education. A case study is a research approach that enables an in-depth investigation of a contemporary phenomenon within its real-life context. Within this framework, the "Farkındalık Sokağı" project is addressed as a single-case example representing a digital awareness initiative among social innovation practices that operate through new media applications. Grounded in a project analysis approach, the study aims to examine the podcast series in terms of its content structure, objectives, target audience, and ethical principles. Accordingly, the materials produced within the project were evaluated using qualitative content analysis. During the analysis process, the main thematic areas addressed in the podcast episodes were identified, and the contribution of these themes to increasing public awareness regarding individuals with special needs was assessed.

The dataset of the study consists of podcast episodes and digital materials produced within the scope of the project. Seventeen podcast episodes published as part of the project, along with blog content available on the project's website, were analyzed. The podcast series includes interviews conducted with academics, educators, and representatives of relevant institutions who specialize in special education. The thematic scope of the episodes, the areas of expertise of the invited guests, and the awareness-raising messages and informational content delivered to the target audience were examined. The project evaluation process was carried out based on four focal points. First, the thematic distribution of the podcast episodes and the relevance of the central topics to special education were analyzed. Second, the compatibility of the podcast episodes and other project outputs with the target audience was evaluated, focusing on their level of relevance to educators, families, pre-service teachers, and individuals interested in special education. Third, in line with its educational objectives, the podcast series was assessed in terms of its potential to raise public awareness regarding special needs and to provide accessible information. Finally, digital accessibility was considered as an additional evaluation dimension, particularly the project's capacity to offer open-access learning oppor-

tunities independent of time and location. Within this methodological framework, the study evaluates the "Farkındalık Sokağı" project as a podcast-based social innovation initiative that aims to establish a bridge between academic knowledge, professional experience, and public awareness in the field of special education.

To clarify the qualitative content analysis process, a coding matrix was developed for the 17 podcast episodes and six blog posts included in the dataset. Each item was first listed according to its title, content type, guest or author, main focus, and target audience. The materials were then reviewed in terms of recurring concepts, educational messages, accessibility-related elements, and references to social participation or institutional support. Initial codes such as special education awareness, autism awareness, independent living, family cooperation, health accessibility, institutional support, employment, social participation, and social innovation were assigned to the relevant contents. These codes were subsequently grouped into broader analytical categories, including awareness-raising, accessibility-oriented communication, inclusive participation, institutional support, educational intervention, and social innovation communication. Finally, the categories were evaluated in relation to the project's contribution to social innovation, accessibility, and public awareness.

4.2. **Project Scope**

Awareness Street was designed with the objectives of increasing social awareness about the daily life and education of individuals with special needs, providing information about the living conditions and needs of individuals requiring special education, and strengthening a sense of solidarity among families, educators, and the general public. In this direction, up-to-date and academic content is provided through digital media tools, especially in the podcast format. Within the Awareness Street platform, six blog posts have been shared on the website. In the blog post *Theory of Mind*, Güneri (2024) explains that theory of mind is a fundamental social cognition skill that enables an individual to understand others' emotions, thoughts, and intentions; develops according to age and culture; reduces behavioral problems when supported in the preschool period with methods such as social stories and drama; and is related, in individuals with autism, to difficulties in communication and social interaction. In the blog post *The Place and Importance of Daily Life Skills in Special Education*, Ege Bülbül (2024) stated that daily life skills are a set of basic household skills that should be taught to support the independent living of individuals with intellectual disabilities; to be acquired in natural and appropriate environments; taking into account individual developmental characteristics and prerequisite skills; in cooperation with the family; through systematic instructional methods, repetition, support, and reinforcement. As highlighted by Saraç (2024) in the blog post *Maintaining Health in Special Education Schools*, the school health nurse is a health professional who monitors and meets the health needs of special education students in the school environment in cooperation with the family and undertakes preventive, educational, and counseling roles in medication management, emergency response, chronic disease care, and health promotion. In *Why Special Education?*, Fazla (2024) conceptualizes special education as a holistic educational process that aims

to maximize an individual's potential; support independence; increase quality of life; and strengthen social adaptation and equality through specially trained personnel, appropriate programs, and methods in line with individual differences and needs.

The Awareness Street podcast series positioned having special needs as a multidimensional phenomenon rather than viewing it solely as an individual disability. Programs cover a broad spectrum of topics, starting with basic concepts such as what special education is and learning disabilities, extending to special education services (Table 1). The podcast content was structured based on the views of expert academics, educators, and representatives of relevant institutions; the focal topics were determined by teachers of Selçuklu Special Education Level III who continue their work in the field; recordings were made at the Podcast Studio located in the Konya Metropolitan Municipality Social Innovation Agency Meram Campus; and episodes were shared via Spotify, a digital streaming platform.

Table 1
Episodes, Guests, and Main Focuses of the Awareness Street Podcast Series

ID	Episode Title	Guest	Main Focus of the Episode
P1	What Is Special Education?	H.S.	Definition, scope, and basic concepts of special education
P2	What Is Intellectual Disability?	Z.A	Intellectual disability, assessment, and educational approaches
P3	What Is Autism?	S.A.	Autism spectrum disorder and awareness
P4	Learning Difficulty	A.K.	Specific learning difficulties and the educational process
P5	Attention Deficit Hyperactivity Disorder	S.A.	ADHD, symptoms, and educational environments
P6	Giftedness	A.K.	Gifted individuals and education models
P7	What Is Down Syndrome?	S.A.	Down syndrome and developmental characteristics
P8	Hearing Impairment	H.S.	Hearing impairment and special education practices
P9	Visual Impairment	C.S.	Visual impairment and educational arrangements
P10	The Place of Special Education in National Education	M.Y.	Education policies and special education practices
P11	Projects for Students with Special Needs in Konya Selçuklu	S.S.	Special education projects at the local level

P12	The Place of Special Education in the Ministry of Youth and Sports	B.O.	Sports and social participation
P13	Institutional Practices for Individuals with Special Needs	A.S.	Institutional support and practice examples
P14	Special Education Activities in Public Education	E.K.	Non-formal education and special education
P15	Employment Efforts for Individuals with Disabilities	M.U.	Employment and vocational support
P16	Social Services for Individuals with Disabilities	N.G.	Social services and support mechanisms
P17	Case Analysis and Guidance in Special Education	H.N.P.	Guidance counseling

Table 2
Blog Posts, Initial Codes, Analytical Categories, and Contributions

ID	Blog Post	Main Focus	Initial Codes	Analytical Category	Contribution
B01	Theory of Mind	Theory of mind, social cognition, autism-related communication	social cognition, autism awareness, communication skills	Awareness-raising	Makes a complex developmental concept understandable for families and educators.
B02	Daily Life Skills in Special Education	Independent living and daily life skills	daily life skills, independent living, family cooperation	Inclusive participation	Links special education with autonomy and everyday life participation.
B03	Maintaining Health in Special Education Schools	School health and preventive care	school health, preventive care, health accessibility	Accessibility-oriented communication	Expands awareness from educational needs to health and care needs.
B04	Why Special Education?	Meaning and holistic purpose of special education	individualized education, equality, quality of life	Social innovation / Inclusion	Frames special education as a process connected with equality and social inclusion.

4.3. **Findings**

The coding process showed that the podcast episodes and blog contents clustered around five main analytical categories: awareness-raising, accessibility-oriented communication, inclusive participation, institutional support, and social innovation communication. Episodes focusing on special education, autism, intellectual disability, learning difficulties, ADHD, giftedness, and Down syndrome primarily contributed to awareness-raising by transforming expert knowledge into understandable public content. Episodes addressing hearing and visual

impairment, public education, social services, and health-related blog content were associated with accessibility, as they emphasized access to information, educational arrangements, and support mechanisms. In addition, episodes on sports, employment, daily life skills, and classroom inclusion linked special education to broader forms of social participation. These findings refers to that the Awareness Street project functions not only as an informational platform, but also as a digital social innovation initiative that connects expert knowledge, institutional collaboration, accessibility, and public awareness.

Table 3
Analytical Categories, Related Codes, and Main Findings

Analytical Category	Related Codes	Related Contents	Main Finding
Awareness-raising	special education awareness, autism awareness, public understanding, reducing misconceptions	P01, P02, P03, P05, P07, B01, B04	The contents increase public understanding of special needs through expert-based and narrative-based explanations.
Accessibility-oriented communication	digital access, health accessibility, educational adaptation, service access	P08, P09, P14, P16, B03	The project supports access to special education-related knowledge through open and flexible digital formats.
Inclusive participation	independent living, family cooperation, sports participation, employment, classroom inclusion	P12, P15, B02	The contents link special education with social participation, independence, employment, and everyday life.
Institutional support	public institution, social services, local projects, service provision	P10, P11, P13, P16	The project demonstrates the role of institutional collaboration in supporting individuals with special needs.
Social innovation communication	social innovation, public benefit, institutional collaboration, digital media use	P10, P11, P13	The project uses new media and multi-stakeholder collaboration to respond to a social need.

5. **Conclusion**

This study examined the Awareness Street project as a digital awareness initiative positioned at the intersection of social innovation, new media, and special education. Rather than treating awareness-raising as a simple process of information transmission, the study approached it as a multi-layered practice that involves visibility, meaning-making, participation, and collective engagement. In this respect, the study emphasized that awareness initiatives targeting disadvantaged groups should be designed in accordance with the social context, the characteristics of the target audience, and contemporary communication practices.

The qualitative content analysis demonstrated that the Awareness Street project produces value through both its thematic diversity and digital accessibility. The podcast episodes and blog posts do not merely provide information about special education; they also create a pub-

lic communication space where expert knowledge, lived experience, institutional support, and social participation intersect. The findings indicate that the project contributes to awareness-raising by making special education-related knowledge more visible and understandable, while also supporting accessibility through open and asynchronous digital content.

In this sense, the Awareness Street project can be interpreted as a social innovation communication model that transforms specialized knowledge into accessible, inclusive, and socially meaningful content. Its combination of expert-based information, narrative experience, institutional collaboration, and digital media use suggests that podcast-based initiatives can serve as replicable educational intervention models for other awareness projects targeting disadvantaged groups.

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MULTISENSORY DESIGN IN THE CONTEXT OF UNIVERSAL DESIGN: SENSORY AND HOLISTIC SPACE DESIGN FOR PEOPLE WITH DISABILITIES

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Abstract

Traditional architectural practices have historically prioritized the sense of sight and often neglected the multisensory nature of human experience. This ocular-centric approach creates significant barriers for individuals with disabilities, reducing the concept of accessibility to mere physical adjustments rather than fostering a holistic experience. This study examines Multisensory Design within the framework of Universal Design principles and advocates for a spatial approach that integrates non-visual senses - such as tactile and auditory perception - to create inclusive environments. The research analyzes the theoretical foundations of sensory accessibility and evaluates its practical applications through two comprehensive case studies: Hazelwood School in Glasgow, designed for students with visual impairments and Gallaudet University's DeafSpace project in the US, tailored for Deaf and hard of hearing individuals. Through these examples, the study demonstrates how specific design elements such as the "Trail Rail", acoustic zoning, and strategic lighting function as critical navigation tools and facilitators of social interaction. The findings conclude that designing for the multisensory mind not only accommodates users with disabilities but also transforms architecture from a static visual object into a lived, bodily experience by enhancing spatial quality and perceptual comfort for all users.

Keywords

Universal Design, *Multisensory Design*, *Inclusive Architecture*, *Sensory Accessibility*, *Holistic Space Perception*.

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Traditional architectural practices have largely been shaped by the dominance of the sense of sight throughout history. However, human experience is not limited to the images projected onto the retina; our bodies perceive space holistically through touch, hearing, smell, and muscle memory (kinaesthesia). For persons with disabilities, this "ocular-centric" (vision-centric) understanding transcends mere aesthetic preference; it manifests as a serious mechanism of exclusion and obstruction. Multisensory Design, which breaks down this hierarchy, is an inclusive methodology that aims to make space accessible, perceptible, and liveable through all the senses (Spence, 2020a). This approach focuses not only on physical accessibility (ramped entrances, wide doors, etc.) but also on "sensory accessibility."

Perceiving architecture solely as a visual practice causes the aesthetic appearance of the space to take precedence over the user experience, often resulting in the neglect of non-visual sensory experiences. This results in spaces becoming inaccessible, particularly for older adults, people with physical disabilities, and/or people with sensory limitations.

Well-designed buildings are living spaces that go beyond being mere objects of aesthetic pleasure; they understand their users and their environment and respond to them. Incorporating accessibility into architectural design enriches the spatial experience, creating a new and inclusive layer for everyone. In this context, diversifying architectural practices and promoting Universal Design principles will foster the development of multisensory user experiences.

In recent years, architects and designers have begun to incorporate sound, touch, smell, and, less commonly, taste into their designs. It is vital to recognize that our visual cortex is not the only organ that responds to architectural space. We experience a space holistically, not only through its effect on our sense of sight but also through its sound, smell, and atmosphere. These sensory experiences are not isolated from each other; on the contrary, they are intricately intertwined. For example, to fully perceive a wooden surface, we need to simultaneously perceive its smell, texture (both visual and tactile), and how it modifies the acoustics of the

space (Anderton, 1991). Such an understanding suggests that inclusive environments should be designed to accommodate diverse sensory, cognitive, and communicative experiences by providing multiple pathways for perception and interaction (Diken et al., 2025).

The sense of sight works in collaboration with other senses, and all senses, including sight, can be thought of as extensions of the sense of touch. Sight essentially confirms the reality that the sense of touch already knows; touch is, in a way, the unconscious of sight. Our eyes determine whether an image is inviting or repulsive by creating an 'unconscious tactile experience' through contact with distant surfaces and edges. As Pallasmaa (2025, p. 57) emphasizes, "Every compelling architectural experience is a multisensory experience; the eye, ear, nose, skin, tongue, skeleton, and muscles each have an equal share in measuring the qualities of place, material, and scale."

This study is structured as a conceptual examination of multisensory design within the theoretical framework of Universal Design. The research aims to develop a critical spatial reading of sensory accessibility through selected architectural examples. Thus, the case studies serve as conceptual lenses demonstrating how multisensory principles can be translated into spatial strategies. In this sense, by holistically interpreting sensory experience as a fundamental dimension of Universal Design, it contributes to the expanding discourse on inclusive architecture. It presents a theoretical and case-based discussion on multisensory design within the framework of Universal Design and this discussion is supported by two architectural case studies: Hazelwood School and Gallaudet University's DeafSpace project.

1. **Universal Design Principles from a Sensory Perspective**

The definition of disability is outlined in the World Report on Disability as "a situation in which an individual is unable to perform activities that they should be able to perform independently in their personal or social life due to any congenital or acquired impairment in their physical or mental abilities" (World Health Organization & World Bank, 2011). Accessibility, on the other hand, refers to the ability of a person with a disability to participate in all areas of life without needing assistance and to independently use the physical environment and services (Enginöz, 2015).

In daily life, the phenomenon of disability is directly related to the environmental and spatial constraints faced by the individual. Accessibility is a fundamental condition for the uninterrupted continuation of actions related to daily life; since it is not possible to speak of full accessibility in an environment where continuous movement cannot be ensured. In this context, reducing accessibility to only physical arrangements such as building entry or vertical circulation solutions (ramps, elevators, etc.) is an incomplete approach that undermines the integrity of the concept. Accessibility is more than a physical solution; it is a means of participation that enables individuals with disabilities to play an active role in social life as equal members of society. Accordingly, accessibility should be understood as a multidimensional concept encompassing not only physical access but also sensory engagement, inclusive communication, and institutional capacity to respond to diverse user needs (Şeker et al., 2025).

In the literature, accessibility is defined as the capacity of users to safely reach built environments and open spaces at their convenience, without needing any outside help, and being able to use these spaces independently. Inclusive environments created according to these standards render urban spaces more liveable and directly improve people's quality of life.

The concept of Universal Design, introduced by Mace et al. (1991), refers to products and environments that can be used by the widest possible user group without the need for any additional adaptation or special design. This approach stems from the ideal of creating an inclusive living environment by meeting the diverse needs of individuals. By adhering to Universal Design principles, a seamless user experience is achieved. It aims to ensure that users can benefit equally from products and services regardless of their gender, geographical location, native language, or physical abilities (Çepehan & Güller, 2020).

At this point, it is crucial to understand the ontological difference between 'accessibility' and 'Universal Design'. Accessibility generally refers to a process focused on the needs of individuals with disabilities and aimed at removing existing barriers; Universal Design, on the other hand, is a holistic methodology that encompasses everyone from the outset.

The seven fundamental principles of Universal Design are often interpreted primarily in terms of physical access, whereas the "sensory" dimension of these principles is critical in overcoming cognitive and perceptual barriers. In the context of inclusive design, the applications of Universal Design principles in the context of multisensory design are as follows (Mace et al., 1991):

1. Equitable Use

Design should provide equal conditions for individuals with different physical and cognitive abilities, avoiding solutions that segregate or marginalize. For example, rather than providing a separate entrance for people with disabilities, designing a main entrance that is accessible to everyone and integrated into the architecture is required by this principle. In a sensory context, tactile replicas and audio descriptions provided for the visually impaired in museums ensure that the work is experienced in accordance with the principle of "sensory equivalence."

2. Flexibility in Use

Design should offer options that accommodate individual preferences and abilities. This principle requires the space to be adaptable for users with different motor skills and levels of perception. For example, allowing users to adjust the lighting level or acoustic insulation of a space, taking into account the sensory sensitivities of individuals with autism, is a concrete example of flexibility in use.

3. Simple and Intuitive Use

The function of the space should be easily understood regardless of the user's experience, language skills, or level of focus. The aim is to enable individuals with different levels of attention to benefit from the environment without feeling excluded. Instead of complex visual signs, "sensory zoning" using scent, acoustic differences, and tactile coding facilitates mental mapping. For example, a library's quiet acoustics and distinctive scent clearly distinguish it from a cafe, providing intuitive guidance for individuals with distracted visual attention.

4. Perceptible Information

Essential information must be conveyed effectively regardless of environmental conditions and the user's sensory abilities. This principle aims to communicate critical information through design, taking into account different environmental conditions and the individual's sensory capabilities. Images, instructions, and clear voiceovers free from complexity and technical terminology ensure that individuals with different levels of perception can benefit from the environment without feeling overwhelmed or inadequate. This requires information to be presented through multiple sensory channels (visual, auditory, tactile). For example, emergency alarms that provide audible (auditory), flashing (visual), and vibrating (tactile) warnings simultaneously ensure that individuals with any sensory impairment can access the information.

5. Tolerance for Error

Design should minimize the negative consequences of accidents and errors. Access to heavily used elements should be easy, and hazardous elements should be controlled, equipped with warnings, or eliminated. For example, yellow raised surfaces (tactile surfaces) on subway platforms serve as a boundary warning for visually impaired individuals as a tactile warning, while also providing safety for people with visual distractions.

6. Low Physical Effort

Design should enable effective use with minimal fatigue. This principle encompasses not only muscular effort but also "cognitive and neurological effort." It includes elements that reduce the physical impact of the environment on users, particularly those with limited mobility or physical disabilities. Reducing background noise for hearing aid users prevents cognitive fatigue by reducing listening effort. Similarly, the use of flicker-free lighting prevents visual fatigue and potential triggers for migraine sufferers and people with neurological sensitivity.

7. Size and Space for Approach and Use

Regardless of the user's body measurements, posture, or mobility, appropriate size and space must be provided for access and use. For example, hearing-impaired people who use sign language need corridors wide enough to see each other so they can communicate while walking (engaging in sign conversations while walking). Space dimensions should be arranged to meet such visual communication requirements; people with physical disabilities, the elderly, or expectant mothers must be able to access the space as easily as people without any disabilities.

The application of Universal Design principles requires a holistic approach to multi-layered parameters. This complex structure in design processes is one of the main reasons why many designs are inaccessible. True inclusivity requires not just applying a static list of standards, but a dynamic design reflex that deeply analyses the diversity of user profiles and, consequently, different needs, and is constantly updated. For example, the presence of a wheelchair ramp at the entrance of a building does not render the building accessible if the interior circulation

layout or furniture arrangement inside restricts manoeuvrability. Physical access is only the gateway to inclusivity; for a space to be truly inclusive, physical solutions must be supported by "sensory accessibility" and "perceptual comfort."

2. Design for Visually Impaired People: Hazelwood School, Glasgow (Scotland)

For individuals with low vision or total blindness, space is not a visual image but rather a sensory map that is formed in the mind through a combination of tactile, auditory, and olfactory cues (Spence, 2020b). Changes in floor texture play a critical role in this mapping; for example, the transition between rough concrete and wooden panels can indicate a functional change in the space. Furthermore, the warmth of wood or the coolness of stone can serve as thermal reference points to aid orientation (Architecture & Design Scotland, 2016).

Designed by Gordon Murray & Alan Dunlop Architects, Hazelwood School in Glasgow, Scotland, is one of the world's most significant exemplary projects for students with dual sensory impairment (visual and hearing) (Alan Dunlop Architects, 2010). The building, with its form that curves around existing trees, divides both the interior and exterior spaces into manageable scales, eliminating the institutional atmosphere often created by long corridors (Fig. 1).

Figure 1
Hazelwood School (Liu, 2018)



The most innovative element of the project is the "Trail Rail" wall that runs along the circulation route (Fig. 2). This cork-covered wall provides a warm, tactile surface that allows students to move independently within the building (Architecture & Design Scotland, 2016). Each section of this sensory wall features unique tactile cues and distinct shapes, enabling students to identify their location along the circulation route.

Furthermore, communication needs throughout the school are met using signage systems such as Braille, pictograms, and "Moon" (a simplified raised letter system) (Liu, 2018). Integrated into the architectural design, this system has become a critical navigation tool that enhances students' confidence and self-esteem (Fig. 3).

In the design of Hazelwood School, material selection was approached with strategic precision to simultaneously support visual, auditory, and tactile senses in the context of navigation and user safety. Regarding lighting design, dark corridors were avoided, and natural light was maximized; high contrast, soft color tones, and adaptable artificial lighting elements were used in transition areas to enable students with low vision to utilize their residual vision most efficiently (Fig. 4). A calm atmosphere, free from visual clutter, was created in the classrooms. To support this, classrooms are oriented towards the north facade to prevent glare and ensure uniform light distribution throughout the space (Alan Dunlop Architects, 2010).

The naturally weather-resistant black pine cladding chosen for the exterior facade stimulates olfactory memory, while also offering a distinct tactile surface experience (Fig. 5). Additionally, the use of roof tiles and slate on the south facades acts as a thermal mass, providing students with thermal orientation cues (Architecture & Design Scotland, 2016).

Figure 2
The "Trail Rail" wall that helps with circulation in the school (Inclusive Design Case Studies, 2026)



Figure 3
The cork-covered wall (Liu, 2018)

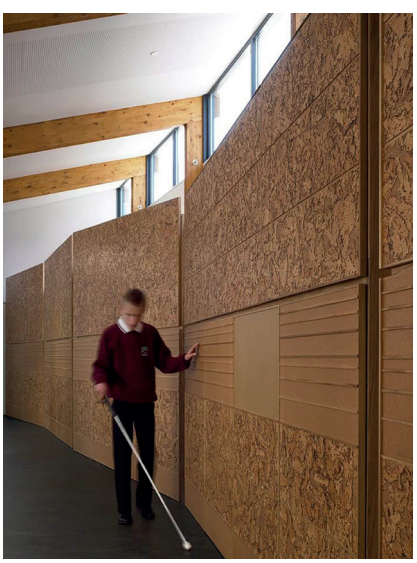


Figure 4
The classrooms with natural light (Alan Dunlop Architects, 2010)



Figure 5
The external facade of Hazelwood School (Architecture & Design Scotland, 2016)



In the surrounding landscape, different acoustic ground materials - such as gravel, recycled rubber, and timber decking - were utilized to produce distinct sounds underfoot. This variety of materials allows them to mentally map their location through the surface resistance they feel and the tonal changes in sound produced by their steps (Architecture & Design Scotland, 2016). In this context, the functions of the spaces are coded through changes in flooring materials. Hardwood floors are preferred in circulation areas to emphasize mobility, while softer materials are used in rest and waiting areas. This differentiation enhances the legibility of the space by providing tactile mapping cues underfoot.

3. **Design for the Hearing Impaired: DeafSpace**

Founded in 1864 in the United States, Gallaudet University is dedicated to the education of deaf individuals worldwide. One of the university's goals is to create a space that is conducive to the cognitive, linguistic, and cultural needs of deaf people. In 2005, architect Hansel Bauman, in collaboration with the Sorenson Language and Communication Center (SLCC) at Gallaudet University, launched the DeafSpace Project (DSP) (Fig. 6). This project has produced more than 150 design elements focused on the spatial experiences of deaf and hard-of-hearing individuals. Developed under Bauman's leadership, this approach is based on five fundamental principles (Edwards & Harold, 2014; Liu, 2018):

Figure 6
Gallaudet University, The Sorenson Language and Communication Center (SLCC) (McMullan, 2026)



Sensory Reach: Spatial orientation and environmental awareness are vital for an individual's safety and psychological well-being within a space. Deaf people have a heightened sensitivity to subtle details (such as visual and tactile cues like the movement of shadows, vibrations

on surfaces, and micro-changes in human expressions) that hearing people often overlook. In this context, the built environment should be designed to provide spatial awareness for individuals with hearing impairments and make orientation intuitive.

In order to ensure visual continuity, furniture and space dividers should preferably be waist-high or transparent,, so as not to obstruct the field of vision. As a concrete application of this principle, the large atriums and glass railings at the center of Gallaudet University maintain uninterrupted visual contact even in vertical circulation areas, allowing sign language communication to continue between the lower and upper floors (Fig. 7).

Figure 7
Atrium (McMullan, 2026).



Space and Proximity: Since people with hearing impairments use facial expressions and sign language in their communication processes, they need a wider personal space (proxemics) compared to those who use spoken language. In one-on-one communication, a distance of approximately 1.5 to 2 meters is required for the parties to fully see each other's "sign language area" and facial expressions. This distance increases proportionally with the number of people participating in the signed conversation. Therefore, this necessary distance between users is the fundamental parameter that determines furniture placement and the spatial design of the space.

Mobility and Proximity: When communicating while walking, sign language users tend to keep a wide distance between each other in order to preserve visual contact. This requires circulation and gathering areas to be designed with sufficient width to allow for uninterrupted movement and visual interaction among users. During such interactions,

when visual attention is focused on the communication partner, steps, thresholds, or obstacles that could pose a risk of falling must be eliminated. In particular, the preference for low-slope ramps over stairs ensures that eye contact, and therefore communication, can be maintained without interruption.

Light and Color: Since hearing-impaired people rely on visual channels in communication processes, visual fatigue is a critical issue in design. Negative conditions such as glare, harsh shadows, and backlighting make lip reading and sign language interpretation difficult, hindering communication. Therefore, architectural elements should provide soft and diffuse lighting by controlling the amount of daylight entering the space. In terms of color selection, matte surfaces (e.g., soft blue or green tones) that contrast with skin color should be preferred to facilitate visual perception, ensuring that hand movements and facial expressions in sign language are clearly visible.

Acoustics: A significant portion of people with hearing loss use hearing aids or cochlear implants to support auditory perception. Acoustic reflection and background noise caused by sound waves reflecting off hard surfaces are key factors that reduce sound intelligibility for individuals using assistive devices. In architectural design, the use of sound-absorbing materials such as wood panels, acoustic carpets, and textured surfaces reduces reflections and background noise sources. This approach aligns with the 'Low Physical Effort' principle of Universal Design.

In the Sorenson Language and Communication Center (SLCC) project, subtle design decisions have been implemented that hearing individuals might not initially notice, but which directly affect the spatial comfort and sense of belonging of deaf students (Hurley, 2016). These applications, which are particularly evident in the building's Atrium area and numbered in Figure 8, are as follows:

1. **Open Corridors:** By providing visual continuity between floors, they allow students to see each other and communicate in sign language even if they are on different levels.
2. **Transparent Surfaces and Natural Light:** Glass walls fill the lobby with natural light, minimizing eye strain for students who communicate through visual channels and providing an ideal viewing environment.
3. **U-shaped Seating Arrangement:** Supports the wide field of vision required for sign language, creating an ergonomic 'conversation circle' where all participants can see each other clearly.
4. **Curved Walkways:** Protect individuals who are signing and visually focused on each other ("walking conversations") from the risk of accidents and collisions that could occur at sharp corners.

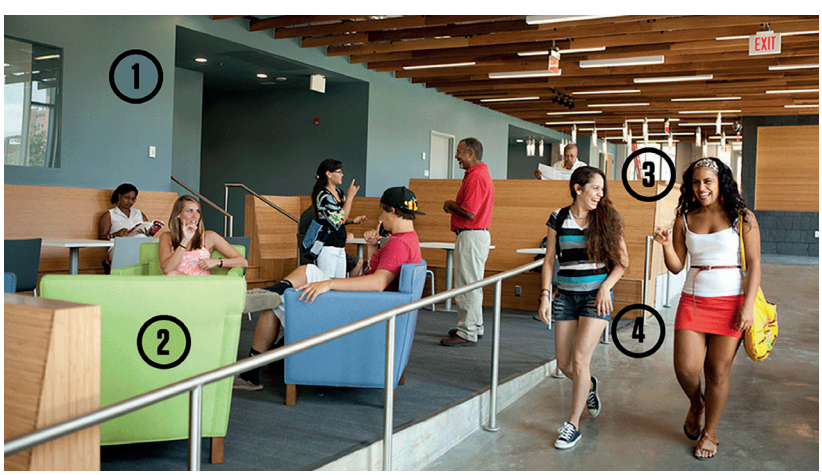
A similar inclusive design strategy has been applied in student dormitories on campus (Hurley, 2016). The fundamental design decisions taken in common areas with high social interaction, numbered in Figure 9, are as follows:

1. **Use of Contrasting Colours:** By choosing tones (e.g., blue) that contrast with skin tone on wall surfaces, the legibility of hand movements and facial expressions during sign language has been enhanced.
2. **Flexible Furniture Layout:** Furniture in common areas is designed to be easily rearranged (modular) to create "visual circles" where groups of students of different sizes can see each other comfortably.
3. **Support Surfaces:** Base and counter surfaces at a suitable height have been created for bags and personal items so that individuals using sign language can keep their hands free.
4. **Sloped Walkways:** Instead of stairs, which require visual attention to be directed to the floor (steps) and interrupt communication, sloped ramps have been preferred, allowing eye contact to be maintained without interruption.

Figure 8
Display of atrium design decisions (Hurley, 2016)



Figure 9
Display of student dormitory design decisions (Hurley, 2016)



Within the scope of DeafSpace studies conducted at Gallaudet University, a unique design language has been developed that focuses on the spatial experiences of people who are deaf or hard of hearing. While these design principles are primarily tailored to the needs of people who are deaf, the solutions they offer enhance spatial quality for all users within the context of Universal Design. In this regard, the five fundamental principles of DeafSpace can be considered concrete reflections of Universal Design principles. For example, homogeneous and controlled natural lighting, low-slope ramps, and increased spatial visibility (transparency) maximize accessibility and comfort regardless of users' physical abilities. Therefore, the Gallaudet campus presents a prime example of how a "customized" design approach can be transformed into an inclusive architecture that also serves the general user population.

4. **Evaluation of Multisensory Design Strategies**

The comparative reading of Hazelwood School and the DeafSpace framework demonstrates that Universal Design principles can be interpreted through different sensory priorities while maintaining a shared objective of spatial inclusion (Table 1). In Hazelwood School, tactile, acoustic, and thermal cues structure spatial orientation and enable autonomous movement for visually impaired users. Conversely, the DeafSpace approach prioritises visual continuity, spatial openness, and controlled acoustic environments in order to support uninterrupted communication and social interaction for deaf individuals. Despite these differences in sensory emphasis, both cases illustrate how spatial legibility, safety, and user comfort can be enhanced through the integration of multisensory design strategies.

Table 1
Evaluation of Multisensory Design Strategies in the Context of Universal Design

Universal Design Principle	Hazelwood School	DeafSpace (Gallaudet University)	Multisensory Design Strategy
Equitable Use	Sensory-based navigation systems enabling independent mobility for visually impaired users	Spatial arrangements supporting inclusive communication environments for deaf users	Ensuring equal spatial experience through multisensory accessibility
Flexibility in Use	Differentiated tactile and acoustic cues offering alternative orientation strategies	Flexible furniture layouts and adaptable communication spaces for different group sizes	Providing user choice and adaptive spatial interaction
Simple and Intuitive Use	Trail Rail tactile wall and material transitions facilitating intuitive wayfinding	Visual continuity and curved circulation improving spatial readability	Enhancing cognitive mapping through sensory perceptibility
Perceptible Information	Braille signage, tactile surfaces, acoustic floor differentiation	Visual transparency, lighting contrast, spatial visibility for sign language perception	Communicating spatial information through multiple sensory channels

Tolerance for Error	Safe circulation supported by tactile boundaries and clear spatial zoning	Elimination of sharp corners and obstacles in communication routes	Reducing spatial risks through sensory guidance
Low Physical Effort	Balanced daylight distribution reducing visual strain and fatigue	Acoustic control and glare-free lighting supporting sustained visual communication	Minimising cognitive and sensory fatigue
Size and Space for Approach and Use	Manageable spatial scale and circulation clarity supporting autonomous movement	Wider corridors, visual interaction zones and ramped circulation systems	Supporting movement and interaction through appropriate spatial dimensions

From a conceptual perspective, the comparison reveals that multisensory design extends the scope of Universal Design beyond physical accessibility towards a more comprehensive understanding of perceptual experience. Rather than functioning solely as a set of technical standards, Universal Design emerges as a dynamic spatial framework that can be reinterpreted according to diverse sensory conditions. In this context, multisensory design contributes to the formation of inclusive environments by strengthening cognitive mapping, reducing sensory fatigue, and fostering a sense of belonging. Therefore, the selected cases collectively highlight that designing for specific sensory needs does not lead to segregation, but instead produces architectural solutions that improve spatial quality and usability for all users.

5. **Conclusion**

In the context of Universal Design, multisensory design transforms architecture from a mere act of construction into an inclusive discipline that improves life and elevates human dignity. Examples such as a visually impaired student finding their classroom at Hazelwood School via tactile walls, or a young person at Gallaudet University being able to communicate continuously with a friend while in motion, represent the most concrete contributions architecture makes to individual freedom.

Multisensory architecture has the potential to strengthen the sense of belonging by adding meaningful layers to a person's spatial-temporal experience. In addition to the five basic senses, our interaction with architecture also encompasses bodily sensations such as pressure, balance, rhythm, movement, and temperature. This approach, developed by analyzing the neurological mechanisms of human senses and their interaction with the built environment, represents a design philosophy that centers individuals with special needs, rejects sensory hierarchy, and views space as a holistic realm of experience.

The design philosophy of the future must embrace the understanding that the human body and mind possess a diversity that cannot be confined to standard measurements. Therefore, designers should view people with disabilities not as passive recipients of the design process but as active participants and engage them as co-designers. A world without barriers is not just about ramps; it is a world that expresses a holistic sensory unity woven with tactile walls, visible sounds, aromatic gardens, and perceptible spaces.

This study focuses primarily on the visual, auditory, and tactile dimensions of multisensory design, while other sensory aspects such as olfactory or thermal perception are addressed only to a limited extent. Future research could expand this conceptual framework through interdisciplinary methodologies, including environmental psychology, neuroscience, and participatory design processes involving users with diverse sensory abilities. Additionally, this section's multisensory focus is concentrated on visual and hearing impairments; this carries the potential to overlook the complex spatial needs of individuals with neurological differences, such as autism or ADHD, whose sensory processing may require different environmental accommodations. Future research should aim to integrate neuroaesthetic perspectives into the Universal Design framework to broaden the scope of sensory inclusivity.

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MEMORY BENEATH THE COVER: THE ISSUE OF EXCLUSION AND INCLUSIVITY IN CULTURAL LANDSCAPES

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Abstract

Cultural landscapes are not merely physical remains to be preserved; they are also sites of social negotiation over who is remembered and who is forgotten. This paper discusses the exclusionary policies of memory operating in cultural landscapes through the metaphor of the "cover" and explores the potential of digital tools to lift this cover and reconstruct memory in inclusive ways. The study examines İzmir Kültürpark as a case study, interpreting it both as a spatial outcome of historical trauma and as an ideological reconstruction project. Established after the 1922 Great Fire of Smyrna, Kültürpark functioned as a "landscape cover" that erased the traces of a multicultural memory and served the Republic's modernist project of identity homogenization. The site embodies the repressed spatial memories of both an erased past and the unrepresented communities, including the Greek, Armenian, Levantine, and Jewish traces once inscribed in its fabric. Methodologically, the study develops a multilayered framework combining critical spatial analysis and heritage theory with contemporary digital participation practices to reinterpret erased urban memory. Conceptually, the "cover" operates as an analytical tool to expose how exclusionary representations are produced in heritage sites and to question which memories are made visible or silenced. Drawing on UNESCO's inclusive heritage principles and the works of Harrison (2012a, 2012b) and Smith & Waterton (2011), the paper argues that inclusive heritage policies can transform heritage sites into dynamic spaces of negotiation where communities regain their voice. The study concludes by proposing a multilayered digital memory model for İzmir Kültürpark, integrating tools such as multilingual story maps, 3D digital archives, guidance based on QR codes, and user-contributed platforms. These instruments aim to reveal suppressed narratives and reintroduce marginalized communities into the cultural landscape's spatial memory - transforming Kültürpark into a more inclusive and participatory site of remembrance.

Keywords

Cultural Landscape, *Collective Memory*, *Digital Heritage*, *Inclusivity*, *İzmir Kültürpark*

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Cultural heritage is increasingly understood not as a neutral or transparent medium through which the past can be accessed, but as a selective representational framework that structures how memory is spatialized, narrated, and authorized (Kevseroğlu, 2022). Within this framework, cultural landscape is defined as a layered spatial formation produced through the superimposition of human interventions and natural processes belonging to different historical periods (Schama, 1995). While this layered structure allows the landscape to be conceived as an archive through which historical continuity can be read, such continuity does not imply that all traces of the past are equally preserved or remain equally visible. Over the past two decades, a significant theoretical shift in heritage studies has reframed heritage not as a fixed repository of historical data, but as a dynamic process continuously reconstructed through contemporary practices of representation (Güler, 2019; Kisić, 2016, Smith, 2006). From this perspective, cultural landscape emerges not as a transparent field of record reflecting the totality of the past, but as a constructed representational process that renders certain layers of memory visible while systematically excluding others through selective mechanisms of authorization and omission (Az, 2024; Güler, 2019). Consequently, the central issue is not what the landscape means in itself, but which narratives are circulated through which representational instruments, and which forms of memory are rendered absent or unrepresentable.

The study is designed as a qualitative case study grounded in critical heritage studies and cultural landscape theory. The dataset consists of two main layers. The first layer comprises the conceptual literature that establishes the theoretical and methodological foundation of the research. In this context, UNESCO's definitions of cultural landscape, international conservation doctrines such as the Faro Convention, and key studies that problematize the Authorized Heritage Discourse have been examined. The second layer consists of planning documents, municipal archives, conservation reports, and historiographical sources related to İzmir Kültürpark and the post-1922 urban reconstruction process. These documents are treated not as neutral records, but as instruments through which spatial meaning, histori-

cal continuity, and symbolic legitimacy are institutionally produced. At the same time, the study does not remain limited to existing institutional documents; within the framework of the proposed digital model, it also conceptually discusses the potential expansion of representation to include plural forms of memory such as user narratives and oral history.

This study problematizes the selective representational processes operating in cultural landscapes through the metaphor of the "cover." Here, the cover is not approached as a layer of meaning to be opened or removed; rather, it is understood as an operational logic that enables the suppression of particular memory layers through conservation policies, planning decisions, and institutional narratives. In this sense, the cover is conceptualized not as a singular meaning subsequently imposed upon the landscape, but as a mechanism that ensures the stable reproduction of specific narratives through heritage discourses and representational practices. This approach focuses less on fixing the metaphor within an abstract and closed theoretical framework than on tracing how it operates within concrete practices of representation. Accordingly, this study does not seek to define the cover metaphor; instead, it conceptualizes the selective representational practices produced through conservation policies and heritage discourses as "cover," and follows how this condition of covering operates within cultural landscapes (Fig. 1). (The conceptual and theoretical construction of the cover metaphor has been addressed in a separate study in the context of representation and memory. This article focuses not on the theoretical elaboration of the metaphor, but on making visible its modes of operation within cultural landscapes.)

Figure 1
Memory Beneath the Cover: Conceptualizing the Landscape as a Layered Digital Memory Model (K-DBM)



Note: Generated using AI-based tools and subsequently edited by the author.

This discussion is concretized through the case of İzmir Kültürpark. Shaped in the aftermath of the 1922 Great Fire of Smyrna, Kültürpark was constructed as a landscape that made visible the public and spatial ideals of early Republican modernization; at the same time, it was also the product of a process of rewriting that excluded from representation the spatial memory of the pre-fire multicultural urban fabric and the communities associated with it (Akman, 2024; Ergican, 2024; Pasin et al., 2016). This rewriting produced a selective landscape practice that operated not through a direct act of physical erasure, but through the perpetuation of certain narratives and the covering of others.

The case was selected due to its analytically condensed character as a large-scale spatial reconstruction area where urban destruction, nation-building, and heritage management intersect in materially traceable ways. Its development on an erased urban fabric, followed by institutional stabilization through planning and conservation regimes, makes it particularly suitable for examining how selective memory is spatially organized and administratively sustained. Methodologically, the study adopts a qualitative design that combines critical document analysis with interpretive spatial reading. The empirical dataset consists of Conservation Board decisions, 1:1000-scale development plans and amendments, planning notes, competition briefs, municipal reports, and related institutional documents from 1985 to 2022. These materials were examined to analyze the historical narratives through which Kültürpark's spatial and symbolic status has been defined and stabilized. The analysis was conducted as an interpretive monitoring practice, moving back and forth between the documents and the existing landscape. Rather than presenting a rigid methodological schema, this monitoring is based on an analytical logic aimed at tracing how the boundaries of representation are produced. Within this framework, three types of processes were particularly emphasized: The ways in which specific historical layers are defined as "heritage"; the processes through which these definitions are stabilized via planning language and spatial decisions; and the ways in which certain layers of memory are discursively relegated to the background. For example, the technical zoning in the development plans (Zone A, B, C) redefined the area within a functional and neutral planning language, effectively sidelining the historical character of the pre-fire urban fabric in terms of its representational significance.

When the reciprocal production relationship between the physical landscape and institutional regimes of representation is made visible, a search emerges for an alternative plane that can suspend the boundaries of representation. At this point, the study turns to digital tools. These tools are understood not as technical solutions that provide a "more accurate" representation of heritage, but as an alternative representational plane that temporarily suspends established boundaries and allows suppressed layers of memory to re-enter circulation.

Operating without direct intervention in physical space, this digital plane generates a threshold through which the plural, contested, and unfinished nature of the cultural landscape can be made visible. Within this framework, the proposed Kültürpark Multilayered Digital Memory Model (K-DBM) is positioned as a conceptual protocol that demonstrates

the possibility for multiple memory regimes to coexist simultaneously and in overlapping ways within the same space, rather than constructing a closed and totalizing historical narrative. The model does not aim to "correct" the representational regime; instead, it seeks to open a parallel field in which narratives excluded by conservation policies and heritage discourses can be re-articulated within the boundaries of the physical landscape.

Accordingly, the article discusses the possibilities of sustaining representation in cultural landscapes not as a closed and final narrative, but as a suspended, plural, and negotiable process. In doing so, digital heritage practices make it possible to rethink Kültürpark not as a "final monument" or a closed historical object, but as a polyphonic space of negotiation in which conflicting pasts can coexist.

1. Cultural Landscape and the Question of Representation

The concept of landscape has, since its historical and etymological origins, implied an act of selection and framing. Defined in fourth-century China as "a way of viewing the environment as if it were a painting," landscape refers not only to the physical environment itself but also to the gaze, distance, and aesthetic filter through which it is perceived (Lennon, 2006; Uzun, 2012). This early definition suggests that landscape is not simply a physical reality but a representational construct shaped by particular ways of seeing.

This representational character is also reflected in Western usages of the term. The Dutch *landschap*, German *landschaft*, and English *landscape* all refer to land that has been shaped, organized, and rendered legible through human intervention (Güler, 2019; Steiner, 2016). Landscape, therefore, is not a transparent surface that reflects everything equally. Rather, it is the outcome of a selective process through which certain elements become visible while others recede into the background.

This logic became more systematic within nineteenth-century geography. Humboldt's definition of landscape as "the totality of all elements that determine the character of a region" appears inclusive; however, the underlying mode of knowledge production primarily privileges what can be observed, classified, and described (Güler, 2019). Elements that are difficult to visualize or measure, such as everyday practices, fragile social relations, and contested memories, often remain outside this framework (Burel & Baudry, 2004; Deniz et al., 2006).

From a contemporary heritage perspective, cultural landscapes are generally understood as evolving products of interactions between people and their environments. UNESCO, for example, defines cultural landscapes as expressions of the evolution of human societies under the influence of social, economic, and cultural forces (Zağıl, 2023). Yet the representation of this evolution is never neutral. Processes of documentation, management, and interpretation inevitably involve decisions about what should be emphasized, preserved, or omitted. Consequently, what appears absent from a landscape may not have disappeared entirely but may instead have been excluded from representation (Az, 2024).

Carl Sauer's cultural landscape approach, developed in 1925, attempted to move beyond purely descriptive understandings of landscape by conceptualizing it as a historical product shaped through human activity. According to Sauer, landscape emerges through the interaction between a cultural group and its natural environment over time (Az, 2024; Lennon, 2006). This perspective transformed landscape from a static scene into a dynamic process of cultural production. However, Sauer's morphological method still relies largely on visible and legible traces (Zağıl, 2023). While this enables landscape to be understood as a layered archive, it also makes the representation of practices that leave few material traces more difficult. In Sauer's classical formulation, culture acts as the agent, nature as the medium, and cultural landscape as the result (Sauer, 1925/2008; Zağıl, 2023). The process is therefore one of continuous transformation rather than a fixed condition (Az, 2024; Taylor, 2012).

Within contemporary urbanization and heritage management practices, however, this dynamic character is increasingly regulated through conservation frameworks and planning mechanisms (Antrop, 2005). Managing a cultural landscape involves more than protecting physical features; it also entails defining and stabilizing particular meanings associated with place. As a result, management practices may privilege representations that appear coherent, harmonious, or historically desirable while marginalizing more contested or uncomfortable layers of the past (Az, 2024; Duncan & Duncan, 1988).

The issue of representation emerges precisely within the gap between what a landscape is and how it is narrated. Certain layers become highly visible because of their monumentality, aesthetic value, or compatibility with dominant historical narratives. Other layers, including everyday practices, minority memories, and sites of conflict, may receive limited visibility or remain excluded altogether (Az, 2024; Güler, 2019).

As Lewis (1979) argues, when landscape is interpreted solely through physical and visual characteristics, it can function as a veil that obscures lived experiences and emotional realities. This is not simply an accidental omission but a structural consequence of representation itself. Because representation necessarily involves selection, some dimensions of place are always emphasized while others are reduced or ignored.

Critical landscape theory therefore proposes reading landscape as a text. J. B. Jackson (2008) and Peirce Lewis (1976) regard landscape as a cultural document containing traces of everyday life, while Duncan and Duncan (1988) emphasize that meaning emerges through interpretation. In this sense, the representational capacity of landscape depends not only on material reality but also on the interpretive frameworks through which that reality is understood (Az, 2024; Güler, 2019).

UNESCO classifies cultural landscapes into three broad categories according to the nature of human–environment interaction: Clearly defined landscapes, organically evolved landscapes, and associative cultural landscapes (UNESCO, 2021). This classification provides a framework for distinguishing cultural landscapes according to their modes of formation and the character of human intervention.

Conceived within the ideological and spatial logic of the Early Republican modernization project, Kültürpark was designed as a formally planned and clearly legible environment. Its spatial boundaries, organizational structure, and morphological character were consciously established through planning decisions. In this respect, İzmir Kültürpark can primarily be associated with UNESCO's category of clearly defined landscapes. Consequently, the discussion must shift from what landscape represents to how the tools, criteria, and decision-making processes that enable such representations operate. This necessity renders the examination of the institutional practices that produce and sustain representation a central ground for the next chapter's inquiry into how memory is spatially organized within cultural landscapes. Understanding these mechanisms is therefore essential for examining how memory is spatially organized within cultural landscapes.

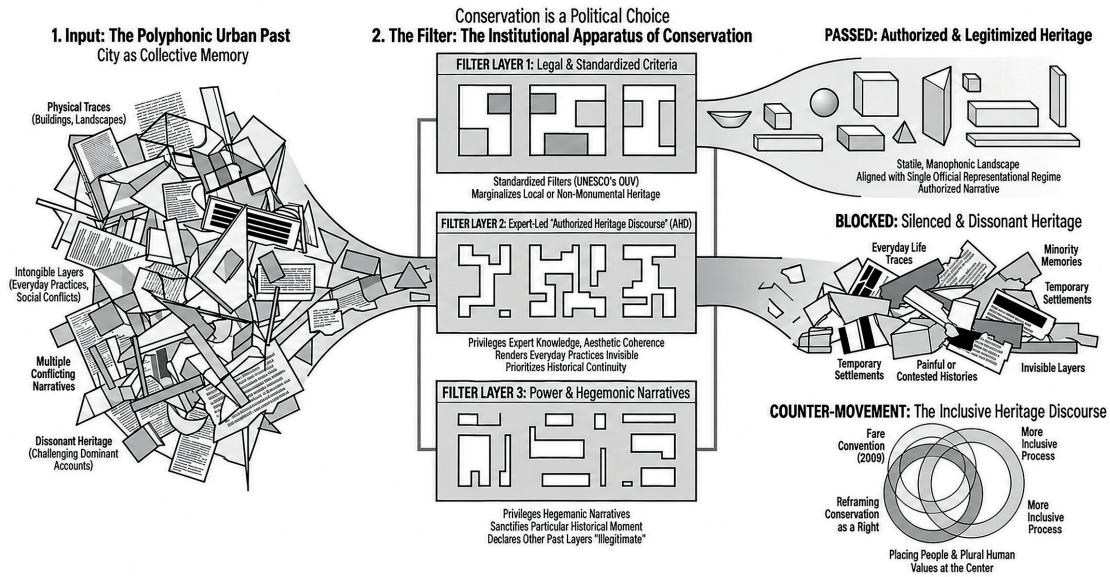
2. **Memory, Conservation, and Selectivity: Conservation as the Institutional Apparatus of the Regime of Representation**

The selectivity inherent in representation is not a random outcome in urban space but a process sustained through institutional and ideological mechanisms. As discussed in the previous chapter, representation always involves acts of inclusion and exclusion. Within the urban context, this selective logic becomes most visible through conservation practices. Although conservation is often presented as a neutral and technical effort to safeguard cultural heritage, it simultaneously determines what is considered valuable, what is transmitted to future generations, and what remains outside public recognition. In this sense, conservation functions not only as a preservation practice but also as a regime of representation.

Urban heritage conservation functions as a filter that determines which layers of a city's past are defined as "heritage" (Fig. 2). Dinçer (2013) describes this tension through what she terms the "difficult triad" of conservation: The simultaneous protection of tangible and intangible heritage, the pursuit of sustainable development, and the maintenance of urban quality of life. Because these objectives frequently conflict, conservation inevitably requires prioritization and compromise. Decisions concerning what should be protected are therefore never purely technical; they are shaped by social, political, and cultural values.

Historically, conservation emerged as a response to the destruction caused by nineteenth- and twentieth-century urban renewal projects. Public reactions to the loss of historic environments contributed to the development of civic movements advocating the protection of urban heritage (Benevolo, 1995; Dinçer, 2013, Jokilehto, 1999; Rodwell, 2007). These developments demonstrate that conservation has always been connected to broader struggles over identity, belonging, and the meaning of the past. The critical question, however, remains: Whose values are protected and whose memories are recognized through conservation processes?

Figure 2
The Second Threshold: Conservation as a Political and Institutional Filter of Urban Memory



Note: Generated using AI-based tools and subsequently edited by the author.

The relationship between memory and space helps explain why conservation frequently becomes a field of power. Rossi (1984) argues that the city itself functions as a form of collective memory, where material traces and cultural meanings accumulate over time (Az, 2024). When institutions identify, register, preserve, or transform these traces, they are not merely managing physical environments; they are also shaping collective understandings of the past.

This process of control activates the inevitable relationship between power and memory. Drawing on Assmann (2022), it becomes evident that while power acts as a strong stimulus for remembering, memory itself can also function as a weapon against domination (Yücel, 2025). If conservation policies privilege only hegemonic narratives or sanctify a particular historical moment, they risk condemning other layers of the city's polyphonic past to silence by declaring them "illegitimate" or "valueless." In this sense, as Kisić (2016) suggests, conservation operates as a regime of representation that produces "dissonant heritage" by making selective choices among conflicting pasts. Ironically, the decision to conserve a site may result in the inability to represent certain histories associated with that very place.

The selective character of conservation is further institutionalized through heritage evaluation criteria. International frameworks such as UNESCO's Outstanding Universal Value (OUV) system rely on predetermined standards to identify and protect sites considered globally significant (Kara, 2025; UNESCO, 1972, 2003, 2009). While these criteria provide an important basis for heritage protection, they also function as filters that privilege particular forms of value. As a result, everyday practices, temporary occupations, local memories, and experiences that do not fit established heritage categories may remain underrepresented within official conservation frameworks (Kisić, 2016; Yücel, 2025).

In response to these limitations, recent decades have witnessed the emergence of more inclusive approaches to heritage conservation(Dinçer& Enlil, 2012).. The Faro Convention, adopted by the Council of Europe in 2005, represents one of the most influential attempts to place people and human values at the center of heritage practice (Dinçer, 2013). This perspective expands conservation beyond expert-led management and recognizes heritage as a social process in which communities play an active role.

Nevertheless, the implementation of participatory approaches remains uneven. As Smith's (2006, as cited in Kisić, 2016) concept of Authorized Heritage Discourse (AHD) suggests, heritage institutions often continue to privilege expert knowledge and established narratives, even when participatory principles are formally acknowledged. Consequently, many memories and experiences remain difficult to integrate into official conservation frameworks despite the growing emphasis on inclusion.

In conclusion, conservation should not be understood as a neutral act of preservation but as a selective institutional mechanism that shapes the representation of the past. By determining which traces are recognized, protected, and transmitted, conservation simultaneously organizes collective memory (Kevseroğlu, 2022). Kültürpark is not merely a landscaped green space or a fairground; it is one of the city's most complex, multilayered sites, where tensions between conservation and representation are most intensely negotiated. In the following section, the mechanisms of "selective conservation" and "memory regulation" outlined above are examined through a case-based analysis of Kültürpark, focusing on which pasts are framed, stabilized, and rendered visible, and which are systematically silenced.

3. **Kültürpark**

3.1. **An Urban Landscape as a Practice of Selective Conservation and Memory Regulation**

İzmir Kültürpark is a public landscape constructed in the 1930s on a vast urban void created by the Great Fire of 1922, as part of the early Republican modernization project (Feyzioğlu, 2006; Kayın, 2015). Designed as the spatial infrastructure of the İzmir International Fair, the site was conceived through an integrated arrangement of exhibition pavilions, open spaces, circulation axes, and green areas. In this sense, Kültürpark was not merely planned as a park, but as a comprehensive spatial apparatus defining how modern public life was to be experienced and spatially organized(Bozdoğan, 2001; Gönlügür & Sezer, 2021; Karpat, 2009; Kayın, 2016; Pasin et al., 2015; Serçe et al., 2003). Today, Kültürpark is largely stabilized through contemporary conservation decisions, planning documents, and institutional narratives that fix the early Republican public order embedded in its initial design as the site's "core value." Based on this framing, decisions are made regarding how the park should be conserved, which uses are deemed legitimate, and which interventions are defined as threats (Alpaslan, 2017; Pasin et al., 2016). In this respect, conservation operates not only as the protection of physical elements but as a representational tool that privileges a specific regime of public behavior and spatial use, elevating it to normative status. Smith's concept of Authorized Heritage

Discourse (AHD) defines heritage primarily through expert knowledge, aesthetic coherence, and historical continuity. In doing so, it tends to render everyday practices, social conflicts, and alternative memory layers largely invisible (Smith, 2006, as cited in Kisić, 2016). In the case of Kültürpark, conservation discourse similarly fixes the site predominantly as a "Republican heritage" to be protected, without critically interrogating the narratives through which this heritage is constructed or the experiences that are systematically excluded from representation (Erkan & Arslan Avar, 2017; TMMOB Şehir Plancıları Odası İzmir Şubesi, 2016). As a result, conservation operates not as a neutral practice of safeguarding, but as a selective mechanism of memory regulation that continuously reproduces a specific historical moment as normative.

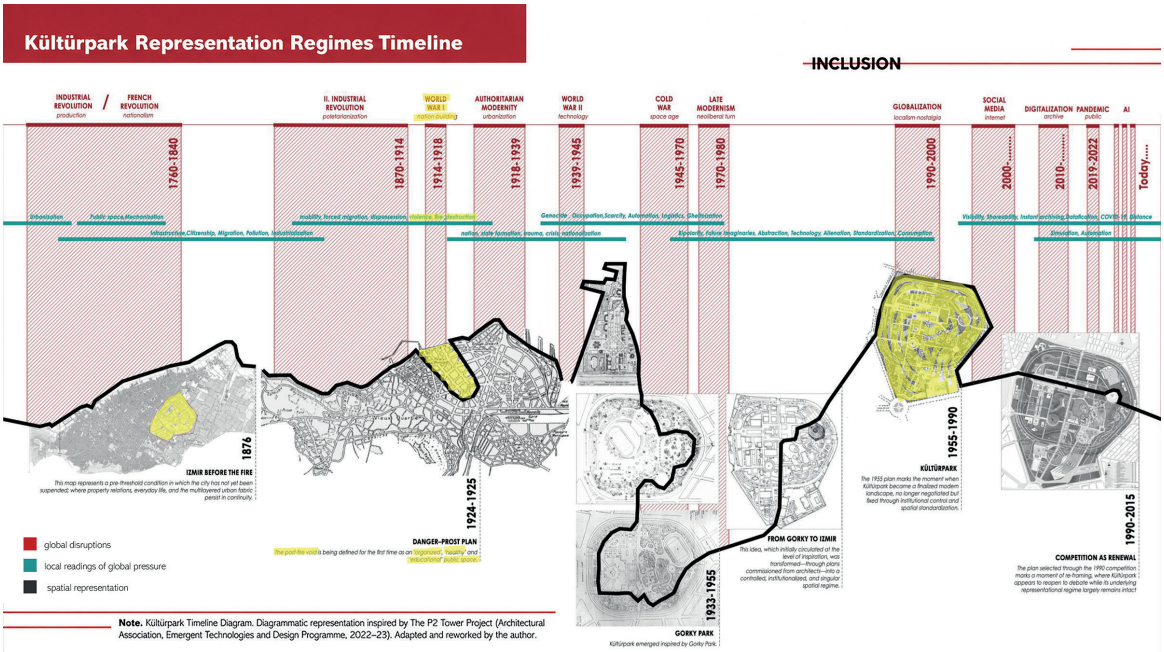
The historical development of Kültürpark clearly demonstrates how this selective frame has generated ongoing tensions over time. From the 1950s onwards, the expansion of the İzmir International Fair in both scale and content gradually subjected the park to increasingly intensive and multifunctional use (Kayın, 2015). While the proliferation of fair pavilions, temporary structures, and entertainment programs enhanced the site's public attractiveness, it also triggered debates regarding the balance between green space and built form, as well as the quality of public use (Feyzioğlu, 2011). During this period, Kültürpark continued to function as a representational space of modern public life, yet simultaneously became the focal point of a persistent dilemma: Was it primarily a park, or a fairground? (Pasin et al., 2016). By the 1980s, transformations in the fair's function and the emergence of new urban development areas led to a renewed questioning of Kültürpark's role within the city (Kayın, 2016). The weakening of the fair's international character, combined with physical deterioration and the uncontrolled diversification of uses, rendered uncertainties regarding the site's future increasingly visible (Karpat, 2009). These uncertainties crystallized into a lasting tension between demands for strict conservation and arguments advocating for functional reprogramming or transformation (Alpaslan, 2017; Erkan & Arslan Avar, 2017; Pasin et al., 2016). The institutional manifestation of these debates emerged in 1990, when Kültürpark was designated as a second-degree natural site (Erkan & Arslan Avar, 2017). While this designation aimed to protect the area from development pressure, it simultaneously fixed a conservation framework that defined Kültürpark predominantly through its identity as a "green area" and a "public recreational space" (Pasin et al., 2016). At this point, conservation ceased to function as a tool for opening up Kültürpark's multilayered history and instead became a selective representational practice that normalized a specific period and spatial order as the primary reference. Planning studies and competition initiatives that emerged throughout the 1990s can be read as direct outcomes of the tensions produced by this selective framework. While these initiatives sought solutions to Kültürpark's physical and functional problems, they also reopened the fundamental question of which identity the site should be approached through and prioritized (Alpaslan, 2017; Çakır & Eldek Güner, 2026; Pasin et al., 2016).

As discussed in this section, Kültürpark has been constituted as a heritage site not only through its physical preservation, but also through the representational and ideological stabilization of the "core values" defined by the modernist public landscape constructed during the

early Republican period. While conservation discourse reads the history of the park through a specific regime of public order and spatial use, it systematically renders invisible the ruptures, conflicts, and alternative layers of memory that fall outside this framework. As a result, conservation operates less as a critical practice that opens the past to inquiry, and more as a selective mechanism of memory regulation that determines which narratives are deemed worthy of preservation.

The ways in which Kültürpark has been defined and transformed in subsequent decades through legal statuses, planning decisions, and institutional interventions reveal the spatial and administrative manifestations of this selective representational framework. Accordingly, the following section focuses on the historical emergence of conservation in Kültürpark, examining how it became institutionalized through specific decisions, plans, and actors, and exploring the spatial consequences of this process (Fig. 3).

Figure 3
Timeline of Representation Regimes and Spatial Transformations in İzmir Kültürpark



Note: Created by the author.

3.2. **The Emergence of Conservation in Kültürpark: Decisions, Plans, and Spatial Consequences (1985–2022)**

Conservation in Kültürpark did not emerge as an approach accompanying the site's original formation; rather, it appeared as a distinct phenomenon shaped by legal and institutional decisions beginning in the mid-1980s. The inclusion of the area within the scope of protection in 1985, followed by its designation as a second-degree natural site in 1990, marked the first instance in which Kültürpark became a direct subject of conservation legislation (Erkan &

Arslan Avar, 2017). At this stage, conservation was defined not through cultural or historical significance, but primarily through the classification of the site as a natural area. The 1990s constituted a period in which conservation in Kültürpark transformed into a highly contested planning issue. During the same period, changes in Türkiye's approach to trade fairs led to a shift within Kültürpark from general national fairs to specialized fairs centered on corporate participation (Feyzioğlu, 2011). This transformation weakened the international character of the İzmir Fair, while simultaneously increasing visitor numbers (Yılmaz, 2015). In line with these changing exhibition policies, İzmir Fair Services and Culture–Art Activities Inc. (İZFAŞ) was established, introducing a more institutionalized operational structure to Kültürpark (Kayın, 2015).

Parallel to these organizational changes, spatial interventions aimed at introducing new functions into Kültürpark began to surface. The construction of the İsmet İnönü Cultural Center in the early 1990s, replacing the former Mehtap Open-Air Theatre, stands as one of the earliest examples of this transformation (Kayın, 2015). In an effort to frame these spatial changes within a more comprehensive and planned vision, İzmir Metropolitan Municipality decided in 1990 to organize the İzmir Fair Kültürpark Environmental Design and Fair Complex Architectural Competition (Öztan, 1993). This competition is widely regarded as one of the most critical turning points in discussions surrounding Kültürpark's spatial future (Drinkwater & Can, 2015; Kayın, 2015). Proposals included in the competition brief, namely hotels, a congress center, and large-scale parking facilities, generated significant disagreements among different actors (Karaçorlu, 1995). These debates were further intensified when the fairground allocated in Çiğli under the İzmir Metropolitan Area Master Plan was rezoned as a residential area, leading to the concentration of fair-related functions back within Kültürpark (Karaçorlu, 1995). During this period, professional chambers and civil society organizations strongly opposed intensive construction by drawing attention to Kültürpark's status as a natural site. The İzmir Branch of the Chamber of Architects argued that Kültürpark should be limited to uses related to sports, recreation, and landscape, and organized press statements, marches, and protests against the competition (Cumhuriyet, 1990a, 1990b; TMMOB İzmir Şubesi, 1990). Following legal action, the competition process was suspended, and İzmir Metropolitan Municipality sought the opinion of the Regional Council for the Conservation of Cultural and Natural Assets, citing Kültürpark's recent designation as a second-degree natural site (Erkan & Arslan Avar, 2017).

The intervention of the Conservation Council at this stage resulted in the subdivision of Kültürpark into Zones A, B, and C, each assigned different construction conditions. Zone A was designated as a park and recreation area with a maximum floor area ratio of Emax = 0.05; Zone B was defined as a fairground with a maximum construction allowance of 35,000 m^2; and Zone C was allocated for hotel and congress center development (TMMOB Şehir Plancıları Odası İzmir Şubesi, 2016). This decision illustrates how conservation was articulated not through an overarching, principle-based approach to the site as a whole, but through numerical thresholds and spatial segmentation, reinforcing a fragmented and selective framework of protection. Following the implementation of the winning competition project, significant

demolitions were carried out in Kültürpark during the 1990s. Social venues such as Manolya Tea Garden, Kervansaray, Ekici Över, and Şarapevi were removed from the site (Karpat, 2009). Although approximately 60,000 m² of land was cleared of built structures, these interventions resulted in substantial losses within Kültürpark's spatial memory, eliminating places associated with everyday social practices and collective experiences (Drinkwater & Can, 2015). This phase illustrates how spatial "decongestion," often framed as a corrective or restorative act, can simultaneously function as a process of mnemonic erasure. In the 2000s, the growing spatial requirements of specialized trade fairs brought renewed demands for exhibition halls and parking facilities within Kültürpark (Yılmaz, 2015). The inclusion of new exhibition halls in the 2003 revision of the 1/1000 scale zoning plan further intensified tensions between conservation discourse and commercial fair functions (Çakır & Eldek Güner, 2026; Tekeli, 2018). During this period, zoning amendments permitting the construction of underground parking facilities were challenged in court by professional chambers. Despite these objections, a 594-vehicle underground parking garage was completed and put into service in 2009 (Karpat, 2009; Yeni Asır, 2009). These developments demonstrate how conservation boundaries could be flexibly reinterpreted through technical planning instruments, allowing substantial spatial interventions to proceed under the guise of necessity. By the 2010s, conservation discourse surrounding Kültürpark had acquired a more plural and socially visible character. The relocation of the fairground functions to Gaziemir in 2015 reignited debates regarding the future of the park (Alpaslan, 2017). In response, İzmir Metropolitan Municipality organized workshops and participatory meetings addressing Kültürpark's transformation, while professional chambers emphasized the need to preserve the area primarily as an urban park (Çakır & Eldek Güner, 2026; Tekeli, 2018).

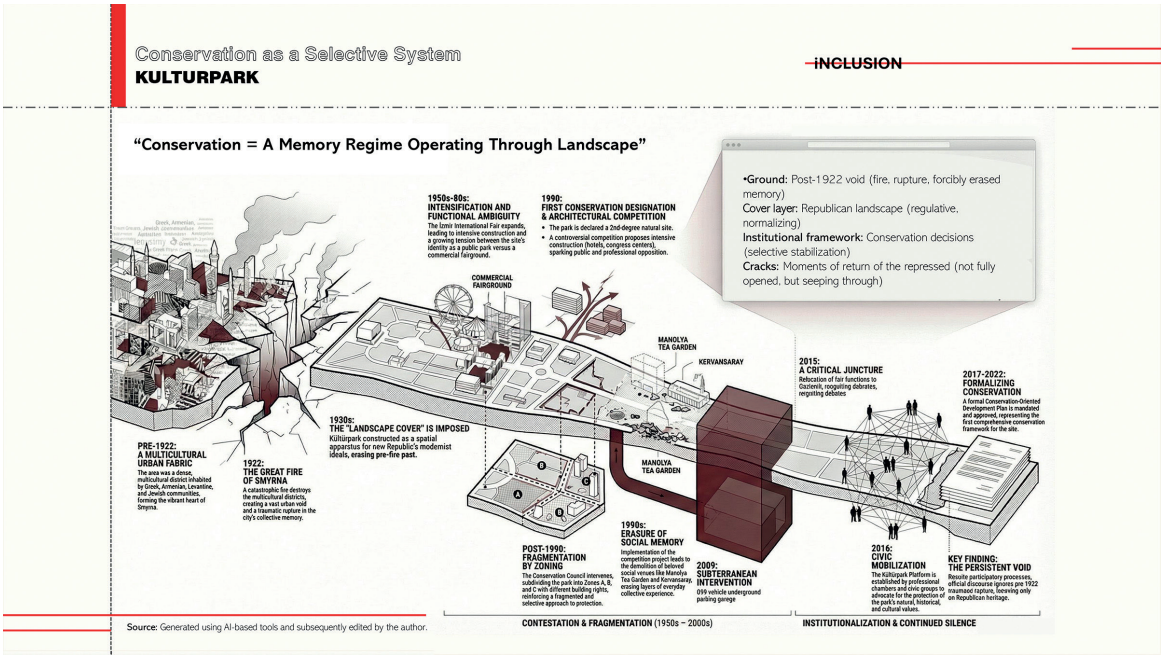
In 2016, the Kültürpark Platform was established with the participation of professional chambers affiliated with TMMOB and various stakeholders, aiming to raise public awareness regarding the protection of Kültürpark's natural, historical, and cultural values (Selçuk, 2018). In September 2017, the Regional Council for the Conservation of Cultural and Natural Assets decided that a Conservation-Oriented Development Plan should be prepared for Kültürpark. This decision rendered previously proposed "New Kültürpark" projects inapplicable and marked a shift toward a more formalized conservation framework (Çakır & Eldek Güner, 2026; Tekeli, 2018). Between 2020 and 2022, the preparation of the Conservation-Oriented Development Plan continued through processes involving multiple actors and stakeholders, and the plan was officially approved by the Conservation Council in 2022. This document represents the first comprehensive conservation framework to address Kültürpark's natural, historical, ecological, and public values collectively. Nevertheless, interventions and debates concerning the site persist, underscoring that conservation in Kültürpark remains an ongoing, negotiated, and incomplete process rather than a settled condition (Çakır & Eldek Güner, in press). During this period, the tension between preserving Kültürpark as a "Republican heritage" and transforming it to respond to contemporary urban needs became increasingly explicit. However, these debates have largely revolved around physical arrangements, building density, and functional zoning.

The historical ruptures predating Kültürpark's establishment, as well as the suppressed memory layers associated with the pre-1922 urban fabric, have remained outside the scope of these discussions (Akman, 2024; Ergican, 2024; Öztan, 1993).

In current planning and conservation documents, Kültürpark is predominantly defined through technical categories such as "urban green space," "recreation area," and "cultural facility area" (Erkan & Arslan Avar, 2017). While this planning language frames the park's history in terms of continuity of spatial use, it simultaneously renders ruptures, conflicts, and traumatic pasts invisible. The post-fire urban void is typically described in planning texts as an area that has been "evaluated" and "organized," a framing that transforms spatial memory from a field of political negotiation into a technical matter of planning and regulation (Karaçorlu, 1995). As Çakır and Eldek Güner point out, although decision-making processes concerning Kültürpark have proceeded within a multi-actor framework, this multiplicity does not correspond to genuinely equal and inclusive participation. Conservation decisions are most often shaped around the language of technical expertise and administrative priorities, while the knowledge-producing capacity of users, temporary practices, and everyday spatial experiences remains excluded from the process (Çakır & Eldek Güner, 2026). As a result, the memory represented in Kültürpark is constituted not as plural, but within a selective and hierarchical structure. This selectivity stands in clear tension with the approach foregrounded by the Faro Convention, which understands heritage not as a fixed object but as a process continuously reproduced through the practices, memories, and experiences of different communities (Dinçer, 2013). While the Faro perspective defines heritage as a living, negotiable, and plural set of values, the prevailing conservation approach in Kültürpark focuses primarily on securing the spatial continuity of a particular historical narrative (Kisić, 2016, Smith, 2006). For this reason, the problem in Kültürpark is not limited to the question of "what is being conserved," but extends to which narratives are considered worthy of conservation and which are excluded from representation. Reading the park through bodily practices, norms of public behavior, and spatial uses offers a critical tool for making this selective representational mechanism visible. When conservation discourse naturalizes and universalizes a particular public order, alternative modes of use and contemporary experiences are coded as temporary, marginal, or threatening.

As demonstrated in this section, Kültürpark is not merely a public space to be physically conserved, but part of a spatial regime through which memory is organized via conservation, planning, and representational practices. When conservation decisions, planning language, and public narratives are considered together, a structure emerges in which certain pasts are consistently rendered visible, while other layers of memory are systematically silenced (Fig. 4). These observations form the epistemological ground for understanding why the digital heritage and alternative representational approaches discussed in the following section should be conceived not as a "solution," but as a complementary and critical representational field aimed at exceeding the representational limits of the existing conservation regime.

Figure 4
Conservation as a Selective System: The Spatial Fragmentation and Erasure of Social Memory in Kültürpark



Note: Generated using AI-based tools and subsequently edited by the author.

3.3. **Digital Inclusive Heritage: An Alternative Field Intervening in the Regime of Representation**

As detailed in the previous sections, Kültürpark's trajectory of conservation has developed largely within the boundaries of physical space and the language of technical planning, structured around site designation decisions, debates on building density, and the definition of "Republican heritage." However, the "selective memory-regulation mechanism" emphasized in Section 3.2 silences the traumatic ruptures and multicultural layers concealed beneath the ideological cover imposed on the park by reducing them to a technical planning issue. At this point, digital technologies come into play not to offer a physical "solution" (repair/restoration) to the silence produced by the existing conservation regime, but to open an alternative and critical field of representation for layers of memory that are structurally excluded by the nature of conservation law and bureaucracy.

The modernist landscape that conservation decisions in Kültürpark have fixed as an "essential value" constitutes, in Rodney Harrison's (2012a) terms, an act of "active pruning" undertaken in the name of heritage sustainability. While this pruning excludes the Greek, Armenian, and Levantine fabric of pre-fire İzmir from the scope of conservation, digital heritage emerges as one of the alternative representational fields with the highest potential to overcome this exclusion without requiring physical intervention. Here, the digital is neither a "patch" nor a "solution" for physical conservation, because materially reinserting silenced memories into space is impossible within the existing conservation paradigm. As Alivizatou

(2021) notes, digital tools transform heritage from a "static object" into a "relational process." In this context, the digital offers a complementary representational plane in which "dissonant" memories, which are absent from Kültürpark's official planning notes (Zones A, B, and C), can coexist without disrupting the physical integrity of the site.

The Authorized Heritage Discourse (AHD), discussed in the previous sections, operates as a representational regime that fixes heritage by defining it through expert knowledge and institutional authority. By contrast, digital heritage approaches, within the framework of the "citizen heritage" conceptualization proposed by Lewi and Smith (2016), generate an alternative field that opens this hierarchical structure to negotiation. Unlike the narratives stabilized through the "designation" mechanisms of heritage councils, digital platforms function as structures that are continuously updatable, open to debate, and receptive to plural participation. In this way, within the context of Kültürpark, actors excluded from representation, including diasporic communities, are able to circulate their counter-narratives on a plane parallel to the official narrative, without entering into direct confrontation with it. Indeed, even in the Conservation-Oriented Development Plan approved in 2022, the area continues to be defined primarily through technical categories (such as recreational area, green space, etc.), resulting in the inability of emotional, traumatic, and everyday memory layers inherent to Kültürpark to find a space of physical representation. As emphasized by Smith and Waterton (2011), such affective forms of memory often remain outside official heritage frameworks. When Harrison's (2012a) understanding of heritage as "a relationship established with the present rather than the past" is taken into account, it becomes evident that enabling this relationship to become plural and polyphonic in Kültürpark is only possible through a digital representational plane capable of accommodating the narratives silenced by the physical space.

What digital inclusive heritage proposes is not a "restoration," but a confrontation. Alivizatou (2021) points to the capacity of digital tools (3D models, QR codes, AR applications) to recall physically destroyed elements (absent heritage) as a spatial experience. The street fabric, property boundaries, and social life buried beneath Kültürpark's "landscape cover" are rendered visible through a digital process of "remapping." As Lewi and Smith (2016) emphasize, this demonstrates that heritage is not merely "stone and mortar," but the relationships between people and places. The digital interface transforms Kültürpark, which has been reduced by conservation law to a "technical planning issue," into a critical field of negotiation where official narratives encounter personal memory, and local communities intersect with diasporic ones.

4. The Multi-Layered Digital Memory Model for Kültürpark (K-DBM): A Protocol Parallel to the Regime of Representation

This section defines the Multi-Layered Digital Memory Model for Kültürpark (K-DBM) as a framework for reconfiguring representation, aimed at enabling the circulation of repressed layers of memory within the boundaries of the dominant conservation and representation regime in İzmir Kültürpark, which is closed to physical intervention. K-DBM is not conceived as an implemented digital product or a finalized software proposal; rather, it is approached

as a conceptual method that problematizes the distinction between narratives rendered visible by dominant regimes of representation in cultural landscapes and memory layers that are excluded from representation, thereby enabling this distinction to be rethought.

The core assumption of the model is that preserving the physical integrity of space and multiplying narratives are not mutually exclusive processes. On the contrary, digital layers possess the potential to render visible suspended zones of representation at points where physical space remains silent and where intervention is ethically and politically constrained. In this sense, K-DBM positions the digital not as a "restorative" or "compensatory" tool, but as a critical threshold that makes visible which layers of memory are covered through particular representational practices in cultural landscapes and opens a space in which narratives excluded by this cover can re-enter circulation.

In the case of Kültürpark, while the landscape that carries the selective memory of early Republican modernization is continuously reproduced through physical conservation practices, traces of pre-1922 multicultural İzmir are excluded from representation (Akman, 2024; Ergican, 2024). K-DBM does not aim to reverse this condition; rather, it seeks to demonstrate that multiple regimes of memory can coexist simultaneously within the same space. The model therefore offers not an "alternative historiography," but a digital memory architecture that operates in parallel with the regime of representation.

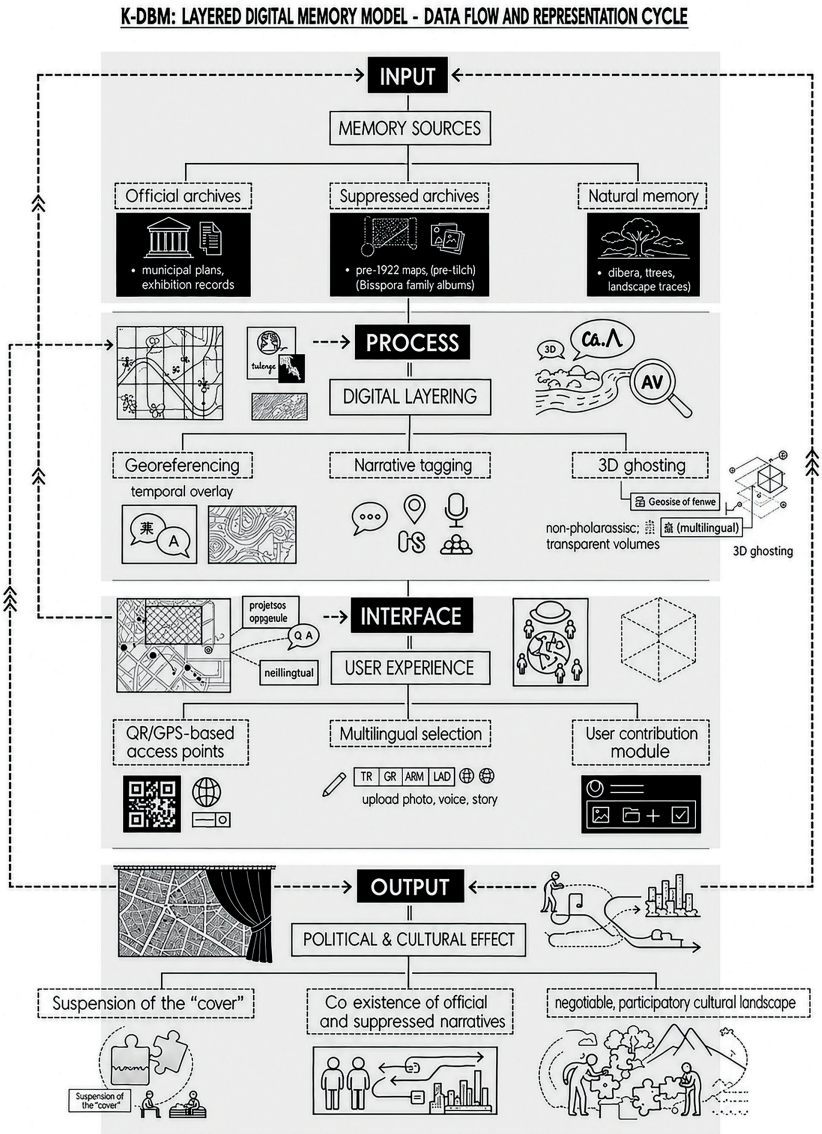
4.1. **Defining K-DBM as a Conceptual Protocol**

K-DBM is conceived not as a proposal for a digital application that directly intervenes in the site, but as a conceptual prototype workflow. This choice is based on the recognition that, in a context where physical intervention is constrained by Kültürpark's legal status, landscape sensitivity, and political memory load, representation can only be negotiated through indirect and mediated planes. In this sense, the digital is positioned not as a substitute or a technical convenience, but as a critical interface that suspends the boundaries of representation. Within this framework, the model approaches heritage not as a fixed "output," but as a process in constant circulation between data, representation, and negotiation (Alivizatou, 2021; Harrison, 2012a). Established among official archives, suppressed documents, everyday user narratives, and digital interfaces, this cycle transforms heritage from a closed and completed narrative into a field of memory that is continuously reproduced over time. The originality of K-DBM lies in its use of digital tools not merely for archiving or information purposes, but as an apparatus that renders the structural limits of representation visible.

The K-DBM (Layered Digital Memory Model) structures its operational cycle, from raw data processing to societal output, around a flow that interrogates the limits of representation.

At the input stage, official archives, sources excluded by hegemonic narratives, and natural memory traces are combined to ensure data plurality. This heterogeneous material is translated into digital layers through georeferencing and non-photorealistic 3D ghost modeling. At the interface level, the system operates as a spatial threshold via QR codes and curated multilingual narratives, ultimately functioning as a deconstructive mechanism that suspends the official "cover" and enables a negotiable, participatory cultural landscape (Fig. 5).

Figure 5
Layered Digital Memory Model



Note: Created by the author.

4.2. **Multilingual Story Maps: Positioning Language as an Epistemic Threshold**

Within existing conservation and presentation practices, Kültürpark is represented through a single, official language (Turkish), a condition that results in the erasure of linguistic traces belonging to the site's multicultural past from spatial memory. The Multilingual Synchronized Story Maps proposed within the scope of K-DBM aim to disrupt this regime of singularity by associating each spatial coordinate with autonomous narratives in Turkish, Greek, Armenian, French, and English. Here, language is not merely a matter of translation; it functions as an epistemic threshold that challenges the "Authorized Heritage Discourse" conceptualized by

Smith (2006, as cited in Kisić, 2016). When users select different languages while standing at a specific point in the park, they do not encounter different linguistic versions of the same narrative, but rather distinct spatial testimonies carried by each language. Toponyms, family names, everyday practices, and affective recollections are recalled into space through language. This structure produces a narrative palimpsest in which narratives coexist side by side, rather than a representational order in which they are hierarchically arranged. In this way, Kültürpark ceases to be the spatial representation of a single national memory and is transformed into a multi-layered, negotiation-oriented field of memory.

4.3. **3D Digital Archives: Ghost Models Representing "Absence"**

K-DBM deliberately rejects the photorealistic reconstruction of the pre-fire urban fabric or demolished structures. As emphasized in Champion's (2016) critiques of digital reconstructions, excessive realism risks transforming the past into a consumable visual object rather than genuinely "bringing it back." For this reason, the model adopts a representational technique referred to as "Digital Ghosting" (Harrison, 2012a). Erased buildings and urban traces are presented in the digital interface as semi-transparent, textureless, and non-monumental masses. These representations do not claim restoration or compensation; on the contrary, as Harrison (2012b) argues, they render visible the possibility of reading heritage through rupture, absence, and loss. As users move among existing trees and Republican-era pavilions, they experience an "awareness of the spatial presence of what is no longer there" through these ghostly masses appearing on their screens. The digital here does not heal the past; it confronts users with the void that has rendered it invisible (Fig. 6).

Figure 6
Layered Digital Memory Model Digital Interface



Note: Generated using AI-based tools and subsequently edited by the author.

4.4. QR- and GPS-Based Spatial Access: A Low-Intensity Intervention Protocol

Kültürpark's status as a second-degree natural conservation site and its sensitive landscape fabric restrict the addition of permanent physical markers within the area. K-DBM treats this constraint not as an obstacle but as an ethical design parameter and proposes a "Low-Intensity Spatial Access" protocol.

QR codes integrated into existing urban furniture within the park, together with GPS-based triggers, provide access to digital layers without leaving any visual or material trace in the physical space. Operating in alignment with Farman's (2012) concept of locative media, this system does not impose new meanings onto the site; rather, it unlocks narratives that are already present but have been obscured by official representation. These temporary digital thresholds transform Kültürpark from a fixed monumental site into a memory landscape experienced in motion.

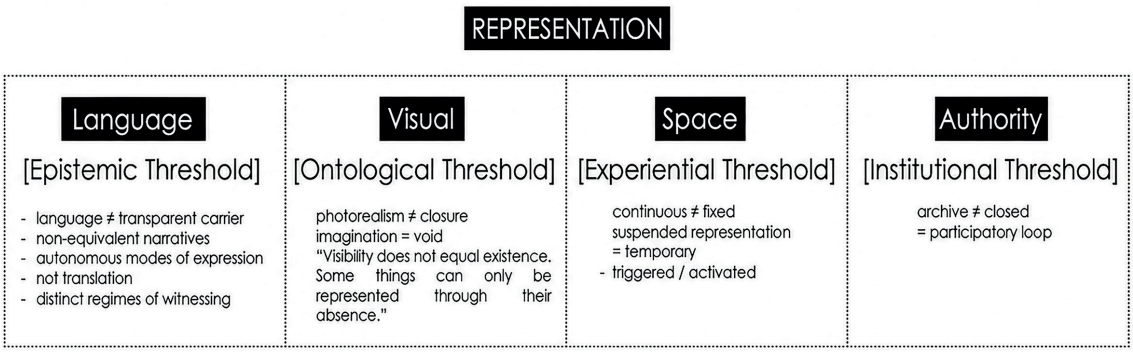
4.5. Participatory Data Portal: Rendering Memory Open and Negotiable

The most critical component of K-DBM is the Participatory Memory Layer, which aims to disrupt expert-centered heritage production. Within this digital portal, memory is approached not as a completed and closed state archive, but as a fragmented, contradictory, and continuously updated process. The model enables displaced communities to associate photographs from family albums, oral history recordings, and personal narratives with spatial coordinates, while also incorporating the everyday relationships that contemporary users establish with the park into this memory cycle. In this way, a permeable relationship is established between past and present, and between official narratives and personal memory. As Alivizatou (2021) cautions, digital participation itself can generate new forms of exclusion; therefore, this portal must be structured around open data, multilingual moderation, and transparent editorial principles. The ultimate goal is not to produce a single "correct" narrative, but to create a living memory ecosystem in which the final word is continuously deferred. In this sense, K-DBM is positioned as a parallel and critical digital intervention into the regime of representation - one that does not aim to directly remove the covering mechanism operating in Kültürpark, but to suspend it in order to render it visible.

Although K-DBM is presented as a conceptual protocol rather than an implemented platform, its practical operation can be envisioned through a collaborative governance structure involving local authorities, heritage specialists, universities, community organizations, and diaspora representatives. User-contributed materials would be submitted through the participatory portal and reviewed by a multilingual editorial board before publication. Verification would rely on source attribution, archival cross-checking where possible, and transparent metadata standards. In line with contemporary digital heritage ethics, the platform would prioritize informed consent, respect for sensitive memories, and the right of contributors to revise or remove submitted materials. Beyond functioning as a repository, K-DBM is intended

as a dynamic knowledge-production environment in which dispersed memories, personal testimonies, archival fragments, and community narratives can be connected, interpreted, and re-contextualized. Through this process, previously marginalized or overlooked heritage narratives may gain public visibility, enabling a more plural and inclusive representation of urban memory while continuously enriching the collective knowledge base.

Figure 7
K-DBM: Diagram of a Digital Apparatus that Exposes the Limits of Representation



Note: Created by the author.

5. **Conclusion**

Cultural landscapes are not merely sites that contain the physical traces of the past; they are spatial manifestations of memory regimes that operate through representation, silence, and selectivity. Drawing on the case of İzmir Kültürpark, this study has examined the exclusionary memory politics at work in heritage sites through the metaphor of the "cover," demonstrating that the cover is not a passive layer concealing a singular historical narrative, but a structural logic that determines the conditions under which representation becomes possible. In Kültürpark, this cover, which is produced through practices of conservation, planning, and institutional narration, renders certain pasts visible while systematically excluding the city's multicultural memory from representation. The central argument of the study is that transcending these representational limits through physical interventions is both politically and ethically constrained; by contrast, digital tools possess the potential to open an alternative representational plane that operates in parallel with the existing conservation regime. Within this framework, the proposed Kültürpark Layered Digital Memory Model (K-DBM) does not seek to reproduce heritage as a closed and completed narrative, but rather to render visible the possibility that multiple memory regimes may coexist simultaneously and in overlapping ways within the same space. The model positions the digital not as a "remedial" or compensatory solution, but as a critical threshold that exposes the structural limits of representation. Rather than individually overcoming representational mechanisms operating across domains such as language, visual density, narrative hierarchy, and institutional authority, K-DBM suspends these mechanisms, thereby opening a space in which suppressed narratives can

circulate without coming into conflict with the physical landscape. This approach reframes heritage not as an "output" or a final historical account, but as an open-ended process circulating between data, representation, and negotiation. In conclusion, this study discusses digital heritage practices in relation to Kültürpark not as an application-oriented proposal, but as a conceptual instrument capable of intervening in established regimes of representation within cultural landscapes. By displacing Kültürpark from being the spatial embodiment of a monolithic Republican narrative, K-DBM enables it to be rethought as an unfinished, negotiable memory field in which conflicting pasts can exist side by side. In this respect, the study contributes to debates on inclusive heritage by foregrounding the critical and transformative potential of the digital.

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CAN IMMERSIVE MUSEUM EXPERIENCES INFLUENCE THE CONSTRUCTION OF WAR MEMORY?

Yu-Chen CHENG

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Abstract

Amid the rapid development of digital technologies, immersive media such as virtual reality (VR), augmented reality (AR), and mixed reality (MR) have become important means through which museums shape visitors' perception, affective engagement, and historical understanding. As institutions of cultural memory and historical interpretation, museums not only reproduce knowledge but also serve as discursive arenas where political meanings are produced, circulated, and contested. Focusing on a national military museum, this article employs literature analysis and theoretical synthesis to examine four interrelated dimensions: The reconfiguration of historical perception through narrative immersion; the transformation of the museum's social role from a temple of knowledge to a site of public participation and national narration; the operation of power and ethics in immersive war displays; and the sensory mediation of war memory as cultural identity. The article argues that immersive war exhibitions are ambivalent mediators of cultural memory. While they deepen affective engagement and experiential access to the past, they may also naturalize singular political narratives through intensified sensory persuasion. By integrating perspectives on narrative immersion, museum display, power/knowledge, and cultural memory, this study frames immersive exhibitions as critical interfaces in the negotiation of war memory and collective identity. It further clarifies how this framework may guide future empirical research and curatorial practice through comparative and longitudinal inquiry, multiperspectival narration, reflective design, transparency, and co-creation.

Keywords

Museum, Narrative Immersion, Construction of Memory, Narrative Politics, Cultural Identity

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The historical development of museums shows that their social roles and cultural functions have long been intertwined with systems of power, regimes of knowledge, and political structures. During European colonial expansion in the sixteenth century, museums initially functioned as private spaces where elites collected exotic curiosities. These spaces were not only venues for displaying objects but also symbols of imagined civilization and epistemic authority. With the rise of Enlightenment thought in the eighteenth century, museums gradually became key institutions for cultural education and national narration, developing into public arenas of knowledge (Hooper-Greenhill, 1992; Hakimian, 2010). In the modern era, museums have shifted from static authorities of knowledge to visual-cultural platforms that emphasize visitor participation, interaction, and social practice (Campos, 2021; Hooper-Greenhill, 2000). More recently, advances in digital technologies and immersive hardware, together with the growing use of immersive media such as augmented reality (AR), virtual reality (VR), and mixed reality (MR) in exhibition practice, have moved museum display from unidirectional transmission toward multisensory engagement, thereby deepening visitors' perception and experience (Ariya et al., 2025; Choi & Chisolm, 2025; Dozio et al., 2021; Ryan, 2015).

Against this background of transformation, museums are no longer solely places for preserving artifacts and interpreting history. They have also become media through which collective memory is constructed and cultural identity is produced (Assmann, 2011, pp. 2-3). Memory, likewise, is not merely a private activity within the individual mind, but a cultural product co-constructed through institutions, exhibitions, and language (Middleton & Brown, 2011; Russell, 2006). As Foucault (2002) argues, historical interpretation is never neutral or objective; it is produced through specific discursive systems and shaped by the entanglement of power and knowledge. These discourses structure how the past is understood and reveal particular political intentions and operations of power. In other words, historical narration is a political practice concerning who is authorized to speak, what may be said, and how it is made visible. Because museums curate which histories are presented,

how they are narrated, and who is positioned as the interpreter, exhibition-making also shapes how visitors understand themselves and others (Hooper-Greenhill, 2000). Through these processes, individuals may develop a sense of connection to unknown others as a community and imagine a shared cultural identity (Anderson, 1991; Wang & Li, 2025). Museums therefore participate in selecting and representing historical memory through curatorial planning, making exhibitions not only displays but also processes of constructing cultural identity and collective memory. Emerging immersive media technologies can further integrate visitors into historical scenes, positioning embodied sensation as a nexus of cultural and cognitive experience. At the same time, affective connections may open new pathways for memory construction (Li et al., 2023). Accordingly, the relationships among exhibition media, memory construction, and cultural identity have become a key issue in contemporary museum studies.

In Taiwan, the intersection of war memory and cultural identity is highly complex (Denton, 2021). This complexity stems from the island's colonial experiences, the legacies of civil war, shifts in Cold War configurations, and intensifying international strategic competition, which together form a multilayered system of historical memory. As a result, different generations and social groups often hold divergent understandings of cultural identity and war memory (Wang et al., 2025; Yao, 2025). In this context, war experience in Taiwan is no longer merely the recollection of historical events, but also a form of social memory that produces affective ruptures and interpretive gaps across generations and groups (Denton, 2021). Taiwan's historical conditions do not reveal a single linear timeline, but rather a field in which multiple narratives compete and power continually rewrites the past. This condition resembles an unfinished "war in progress," in which media, representation, and political discourse become key means through which power is exercised. As the National Military Museum is planned to be completed in 2026 and to open to the public in 2027, its permanent exhibitions are expected to include themes such as "Global Military Transformations," "World War II," "International Politics and Cross-Strait Conflicts," and "Military and Society" (Yu & Lin, 2025). As both a cultural institution with a distinct military orientation and a medium of public education, the National Military Museum must consider how to represent the nation's war history within this "war in progress" and how to mitigate social gaps in war memory and associated affective ruptures. This is both a formidable challenge and a significant responsibility. As Janes (2009) cautions in Museums in a Troubled World: Renewal, Irrelevance or Collapse?, modern museums that remain bound by entrenched conventions and a lack of imagination amid continual social and environmental change risk losing public meaning and becoming marginalized (pp. 9-11, 13-15). A review of relevant studies suggests that immersive technologies have been widely applied in museum exhibitions, cultural heritage conservation, and public education, yet their development and application in military contexts remain at an early stage (Shatokhin et al., 2025). Immersive experiences may therefore offer the National Military Museum a potential pathway for public engagement within an environment of competing narratives.

However, as immersive technologies enter museum exhibition practice, new critical concerns emerge. Do immersive experiences risk confining visitors to sensory and emotional impact while diminishing the critical distance necessary for reflection (Mathias, 2022)? Might technological verisimilitude displace or blur historical reality (Aeschbachet al., 2022)? Within staged historical scenes and curated narratives, is the war history that visitors remember the past itself, or a remediated and orchestrated perceptual experience (Graf, 2024)? For these reasons, immersive media in museum exhibitions should also be understood as a form of cultural politics. What is presented may not be neutral fact, but a complex negotiation of memory, understanding, and identity. Accordingly, this article offers an exploratory review study that draws on Marie-Laure Ryan's narrative immersion, Eilean Hooper-Greenhill's account of museums' sociocultural roles, Michel Foucault's theorization of power as knowledge, and Jan Assmann's theory of cultural memory (Table 1). Focusing on immersive technologies in a national military museum, this study examines how such technologies may shape visitors' understanding of war history and processes of memory construction. It further considers the potential and risks of immersive exhibition practices for the formation of military cultural identity.

Table 1
Core Theoretical Lenses

Theorist / Framework	Key Concepts	Analytical Level	Use in This Study
Ryan (2001, 2015)	Narrative immersion; spatial, emotional, cognitive modes	Micro (visitor)	Understanding how narrative absorption operates at sensory and cognitive levels for visitors.
Hooper-Greenhill (1992, 2000)	Post-museum; interpretation; audience as co-producer	Meso (institution)	Analyzing how museums construct meaning through exhibition scripts and spatial design.
Foucault (1977, 1980, 2002)	Power / knowledge; discourse; truth-effects	Macro (discursive / political)	Examining how war narratives are naturalized, legitimized, and dissent is excluded in immersive contexts.
Assmann (2011)	Cultural memory; storage vs. functional memory; ritual	Temporal / cultural	Explaining which war experiences enter functional memory and how they become resources for identity.

Note: The theorists are listed in the order of analysis.

Building on the preceding discussion, this article addresses three core research questions:

- RQ1. How do immersive military exhibitions reshape visitors' perception of war history and processes of memory construction?
- RQ2. How do the institutional and political contexts of national military museums shape the boundaries of power, knowledge, and narrative?

- RQ3. As national military museums strengthen affective connection and reproduce national narratives, what opportunities and ethical risks may emerge?

This study adopts a theoretical and literature review approach to develop an analytical framework encompassing narrative immersion, museum display, political power and knowledge, and cultural memory and identity. The framework provides a theoretical basis for future empirical research and offers points of reference for curatorial practice. Future research may extend this inquiry through exploratory surveys, participant observation, post-experience questionnaires, and experimental designs. These methods would enable closer examination of how narrative immersion shapes visitors' war memory construction and cultural identity formation, thereby offering practical implications for military heritage exhibition practice. Table 2 clarifies the methodological implications of this framework by translating each theoretical lens into possible empirical research focuses and data sources.

Table 2
Translating the Theoretical Framework into Future Empirical Research

Theoretical lens	Empirical focus	Possible data
Ryan: Narrative immersion	*Presence, emotional engagement, cognitive involvement*	*Pre/post questionnaires, visitor interviews, observation*
Hooper-Greenhill: Post-museum	*Participation, interpretation, meaning-making*	*Exhibition script analysis, in-gallery visitor conversations, participatory feedback*
Foucault: Power/knowledge	*Narrative authority, excluded voices, truth-effects*	*Discourse analysis, source comparison, curatorial interviews*
Assmann: Cultural memory	*Memory retention, identity formation, collective meaning*	*Longitudinal interviews, memory recall tasks, follow-up surveys*

Note: The theoretical lenses are listed in the order of analysis and translated into possible empirical research focuses and data sources.

1. Narrative Immersion and the Media Turn

Marie-Laure Ryan first offered a systematic theorization of "narrative immersion" in Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media (Ryan, 2001). She conceptualizes narrative immersion as a psychological process between reading and imagination, grounded in the interplay among language, perception, and consciousness. Readers are not passive recipients within a textual world; through imaginative projection and affective transportation, they can experience the perceptual illusion of entering the storyworld (Ryan, 2001, pp. 14-16). Building on this premise, Ryan identifies three interrelated dimensions of immersive experience: Spatial, emotional, and cognitive immersion. Spatial immersion refers to the reader's mental positioning within narrative space and

the resulting sense of "being there." Emotional immersion emphasizes affective projection and resonance with characters, while cognitive immersion concerns intellectual engagement in understanding, reasoning, and interpreting the story. Together, these dimensions show how narrative can move beyond linguistic signs and enter an imagined world of perception and mind. With the rapid development of digital media technologies in the early twenty-first century, Ryan revisited this framework in Narrative as Virtual Reality 2: Revisiting Immersion and Interactivity in Literature and Electronic Media (Ryan, 2015). She notes that earlier accounts of immersion centered mainly on reading experience and textual structures, while paying less attention to how media shape perception and interactivity (Ryan, 2015, pp. 5-7). In an experimental study of virtual exhibitions, Chang and Suh (2025) similarly show that narrative immersion is not only psychological transportation, but also a temporary projection of consciousness into the symbolic space of a fictional world. From this perspective, as digital display and interactive media continue to mature, narrative immersion has shifted from an effect of text-reader interaction to a "world experience" that integrates embodied perception, sensory experience, and cultural framing.

Because immersion is grounded in the subject's involvement, and interactivity expresses that involvement, Ryan (2015, pp. 7-10) argues that immersion and interactivity should not be treated as a binary opposition. Instead, they should be understood as complementary dimensions of narrative experience. Immersion concerns how consciousness is absorbed into the story, whereas interactivity concerns how the subject participates in generating the story through action. As interactivity has become a defining feature of digital narrative, immersion is no longer a passive state of reading but an emergent experience shaped by embodied action and sensory feedback (Polydorou, 2024). Narrative is therefore no longer limited to linguistic representation. It becomes an event that can be lived and experienced, in which consciousness and media jointly produce cultural meaning. This perspective offers a key framework for engaging with technologies such as virtual reality (VR), augmented reality (AR), and mixed reality (MR). Through image, sound, space, and interaction, these technologies construct a sensory narrative environment in which visitors no longer view stories from a distance but inhabit them (Ariya et al., 2025). Accordingly, media-augmented narrative experience shifts from semantic comprehension to embodied resonance, and from decoding symbols to generating perception. This shift challenges the traditional separation between text and reader and foregrounds the body as an interface through which the world is experienced.

From the perspective of museum display, narrative immersion theory provides a foundation for rethinking exhibition logics. Museums have long been understood as institutions of knowledge representation and cultural interpretation (Hooper-Greenhill, 1992, pp. 1-3). The introduction of immersive technologies shifts exhibition practice from viewing to experiencing, and from representation to generation. In virtual exhibitions and interactive narratives, visitors increasingly move from passive spectators to participants in narrative construction (Murray, 1997; Simon, 2010). This participatory engagement means that history is no longer presented only through a single linear timeline or authoritative viewpoint. Instead, it is

reconstructed as an experiential situation through multisensory interaction, digital narrative media, and technologies of presence. Visitors' bodies and consciousness are drawn into the narrative, producing a sense of perceptual presence. Historical understanding then extends beyond rational cognition to include sensory and affective dimensions (Champion, 2015; Kenderdine, 2015; Slater & Sanchez-Vives, 2016). At the same time, this sense of "being there" raises questions about the relationship between reality and representation. If immersion produces a constructed reality, what do visitors experience as real: A representation of history or a media-generated illusion? Ryan (2015, pp. 5-7) suggests that the appeal of immersion derives from this interweaving of the real and the fictional. In military museums, this raises an important ethical challenge. Highly verisimilar narratives can intensify affective resonance, but they can also orchestrate perception and memory in ways that shape how war history is understood. This concern is especially acute in museums that display weapons, violence, and casualties. Immersive technologies may deepen affective engagement and support memory formation, but without a critical interpretive framework, they may also reduce war history to sensory stimulation.

Accordingly, the value of narrative immersion lies not only in its technological applications, but also in showing how narrative becomes a point of convergence between perception and power. The key issue is not simply how immersion intensifies experience and presence, but how it sustains the tension between experiential depth and reflective distance (Ryan, 2015, pp. 5-9, 288-291). On this basis, this article argues that the central problem of narrative immersion concerns how to calibrate the depth of experience with the distance required for reflection. Immersion invites visitors to enter a situated context, while also requiring them to retain a critical stance and step outside the narrative for reflection. This movement between being inside the experience and remaining outside it can be regarded as a defining feature of contemporary narrative immersion. Overall, Ryan (2015) provides a framework that integrates psychological processes with media and semiotic mechanisms, while clarifying how immersion is shifting toward a mode of cultural perception. Extending this perspective to military museums, this article argues that immersive narrative can function not only as a method for presenting war and military history, but also as a form of experiential curation. Through careful calibration between narrative and media, it can enable visitors to become absorbed in the exhibition while maintaining critical distance, thereby supporting both affective immersion and reflective inquiry into war history and military culture.

2. **Knowledge, Narrative, and Display in Museum Contexts**

The museum is a significant product of modernity, and its roles and functions have long been shaped by authoritative regimes of knowledge. Hooper-Greenhill (1992, pp. 1-3) argues that, from the eighteenth century onward, museums operated within Enlightenment rationality and colonial epistemologies, functioning as symbolic spaces for collecting and classifying knowledge. Early exhibition logics reflected a Western scientific impulse to order the world. Objects were systematically classified, coded, and displayed to demonstrate rational control over nature and culture, producing an ordered mode of looking (Hooper-Greenhill,

1992, pp. 6-8). In doing so, museums became stages for authoritative knowledge and symbols of cultural power. This tradition, often summarized as "display as order," offers clear advantages for presenting weapons inventories, service branch systems, and war chronology through categorical organization. Yet it can also reinforce a historiography centered on the nation-state and military institutions (Alberti & Nehring, 2022). Museum display is therefore not only an educational tool, but also a political practice of representation. Through the arrangement and interpretation of objects, museums construct a "microcosm of the world" that foregrounds particular value systems, including cultural superiority, military technology, and national strength.

Hooper-Greenhill (2000, pp. 7-9) argues that museums have undergone a transformation from the "modern museum" to the "post-museum," shifting from repositories of knowledge to sites of meaning-making. Within the post-museum framework, the museum is understood as an open, fluid, and participatory cultural space that emphasizes plural perspectives, local knowledges, and social dialogue. This shift is particularly important for military museums. Exhibition narratives may move beyond accounts centered on victory, defeat, or the evolution of armaments, and instead incorporate civilian experiences, prisoner-of-war testimonies, and gendered and ethnic perspectives. Such an approach also requires careful engagement with trauma, mourning, and commemoration. Interpretive authority may therefore shift from a single authoritative voice to negotiation among diverse publics, including veterans, bereaved families, and local communities. This atmosphere of competing narratives resonates with Murat's (2012) discussion of "multiple stakeholders" in strategies for unconventional warfare. From Murat's perspective, national militaries often define their values in relation to their own individuals or groups, rather than through a broader understanding of all stakeholders in a conflict. If the aim is to de-escalate conflict, it becomes necessary to consider situations from multiple standpoints. This orientation also aligns with Hooper-Greenhill's (1999, pp. 12-14) argument that narrative functions as an indispensable mediator in exhibition-making. Narrative weaves texts, images, space, and visitors' experiences into an intelligible whole, allowing exhibitions to produce meaning with contextual depth and emotional resonance. From this perspective, military museums should not merely transmit knowledge from a single viewpoint. They should also consider whether they can accommodate plural narratives within a dynamic process of meaning-making, thereby addressing social gaps in war memory and affective ruptures.

In museum settings, exhibitions function as cultural practices that render the past visible and shape how societies understand memory and history (Hooper-Greenhill, 2000, pp. 1-5, 19). Narrative often determines whose history is told and whose memories are foregrounded. If battle narratives focus mainly on strategic success and heroic sacrifice, they may marginalize civilian casualties and postwar trauma. By contrast, incorporating battlefield medicine, prisoners of war, civilian experiences, and oral histories can shift interpretation from celebrating military achievement to examining the shared human conditions of war. Such narrative choices are not merely methodological arrangements; they also involve ethical judgment and

the representation of power. Empirical studies suggest that when visitors encounter embodied and personal objects, including individual equipment, diaries, damaged belongings, and personalized stories, they are more likely to develop empathetic and critically oriented emotional responses, and to reassess the values and costs of war (Kharkhun, 2025; Liao, 2025; Yi et al., 2025). As digital technologies and visitor-centered approaches become more established, immersive display may become a key practice for contemporary military museums. By creating verisimilar narrative spaces, immersive exhibitions can situate visitors within historical settings through visual, auditory, and tactile engagement. In this mode, experience can take precedence over viewing, and affective resonance over didactic explanation. Visitors' bodies and emotions are therefore brought into the narrative (Champion, 2015, pp. 42-45). In military-themed exhibitions, such approaches may include reconstructed battlefield environments, flight and armored vehicle simulators, and shelter-based sound experiences. These formats also enact Hooper-Greenhill's (2000) post-museum aspiration that exhibitions should not only be seen, but should invite participation from multiple stakeholders.

However, while immersive exhibitions can intensify interactivity and affective engagement, they also risk reproducing power. When senses are guided by technology and emotions are orchestrated through narrative, "experiential reality" may substitute for "historical reality" (Aeschbach et al., 2022; Graf, 2024). In military museums, if immersive scenarios foreground only tactical tempo and heroic viewpoints, they may downplay violence, suffering, and ethical dilemmas. Verisimilar audiovisual effects may also privilege affect over deliberation, leading visitors to overlook plural interpretations (Kenderdine, 2015). As Hooper-Greenhill (2000, pp. 124-127) cautions, even when museums promote interactivity and democratizing practices, they must sustain critical reflexivity so that participation does not become another implicit technology of power. Recent scholarship suggests that immersive exhibitions are less likely to reinforce a single authoritative narrative when they incorporate plural perspectives, interpretive transparency, and guided reflection. Under these conditions, visitors are more likely to develop reflective understanding during the experience (Derda, 2024; López-Rodríguez et al., 2024). Plural-perspective design positions visitors as co-constructors of meaning rather than passive recipients. Accordingly, the significance of immersive experiences in military museums lies not only in technical innovation, but also in the reconfiguration of power relations. Drawing on Simon's (2010) account of the participatory museum, military museums can be re-conceptualized as sites for negotiating meaning and facilitating public discussion, rather than spaces devoted mainly to displaying weapons and celebrating military performance. Building on Hooper-Greenhill's theoretical foundations, this article argues that participation does not automatically equate to democracy. Immersive display can support both empathy and critique only when curatorial practice establishes concrete safeguards, including plural forms of evidence, clearly marked interpretive positions, counter-narratives, reduced affective bias, and post-experience reflection mechanisms. Practical examples include facilitated dialogue areas after guided tours, sections foregrounding bereaved families' and civilians' perspectives, and interfaces that allow visitors to cross-check data and sources. Taken together, the National Military

Museum is not merely an educational institution or cultural repository. It is a cultural venue that shapes shared social consciousness through narrative and technology, configuring how people understand war memory and military culture.

3. Perception, Power, and Narrative Ethics in Immersive Display

Building on the preceding discussion of narrative, media, and cultural context, this section adopts a Foucauldian perspective to examine the relations among media, visitors, and experience in immersive exhibitions. Foucault (1977, 2002) reminds us that history is never presented as neutral; rather, "effects of truth" are produced through discourse, institutions, and the disciplining of bodies. Immersive exhibitions may intensify these effects because they privilege sound, light, space, and affect over verbal narration, positioning the visitor's body as an entry point for meaning-making. For this reason, immersion is not merely a technological option. It can also operate as a form of power, shaping understanding through experience, replacing distance with presence, and limiting critical positioning through affective flow. Studies by Ariya et al. (2025) and Polydorou (2024) suggest that the sensory integration of immersive environments may lead visitors to accept an exhibition's narrative structure before fully reflecting on their own responses. When museums adopt immersive techniques, they reconfigure the visitor's position: Visitors are no longer outside the exhibition, but placed within perceptual and narrative arrangements that shape how they see, feel, and understand.

In military exhibitions, the ethical burden of immersive display cannot be overlooked. Research suggests that the "technical realism" of immersive military scenarios can be mistaken for "historical reality" (Aeschbach et al., 2022; Graf, 2024). Lifelike environments, simulated weapons sounds, and a commander's viewpoint may lead visitors, through bodily tension and guided affect, to accept the judgments embedded in the exhibition. For example, when a war scenario highlights only unit coordination, weapon performance, and tactical operations, heroic narratives and claims to national legitimacy may become naturalized. Yi et al. (2025) further indicate that when immersive exhibitions lack moments of reflection, affective memory can override historical understanding, allowing emotional impact to displace critical deliberation. By contrast, when immersive scenarios incorporate plural perspectives, such as prisoners of war, civilian sheltering, medical settings, and bereaved families' narratives, they may encourage visitors to revisit war from a more reflective stance. In other words, the ethical issue of immersion does not lie in the technology itself, but in how exhibitions direct feeling. As Ahmed's (2014) account of the cultural politics of emotion emphasizes, emotion is never purely individual; it is shaped through social circulation and narrative distribution. Immersive exhibitions not only present history but also recalibrate how visitors feel history.

However, the ethical tensions of immersive exhibitions are not necessarily irreconcilable. Recent studies suggest that when exhibition design incorporates plural perspectives, data transparency, and counter-narrative elements, it can reduce the tendency of immersion to produce a single-discourse effect (Derda, 2024; López-Rodríguez et al., 2024). Taken together, this

scholarship indicates that immersion does not inevitably lead to affective orchestration. The decisive issue is whether the exhibition preserves visitors' capacity to step outside the narrative. In military museums, immersive war scenes can be accompanied by reflective nodes after the experience, such as interfaces presenting civilian data, battlefield medicine records, divergent historical sources, video interviews with bereaved families, or clearly marked interpretive positions. These elements can help visitors regain reflective distance after intense affective engagement. Kharkhun (2025) and Liao (2025) further show that when visitors encounter multi-perspectival materials, embodied objects, and tools for cross-checking evidence, they are more likely to recognize the complexity of war narratives and less likely to treat immersive experience as a single truth. These findings align with Foucault's conception of power as not simply repressive, but as a structure of possibilities. Accordingly, the ethical responsibility of exhibition-making is not to reject immersion, but to design immersive environments that preserve visitors' space for choice, understanding, and judgment. The aim is to translate affective mobilization into deeper comprehension.

From this perspective, immersive exhibition as a narrative technology entails both epistemic possibilities and risks of power. It can help military museums bridge generational differences and support experiential understandings of war memory. At the same time, it may reinforce national narratives, marginalize dissenting voices, and reduce violence, trauma, and ethical complexity through aestheticized technology. Foucault (1980) suggests that one way to grasp power is to observe how it shapes what can be imagined. The political character of immersive exhibition lies precisely in this capacity: It can expand understanding, but also narrow it; it can open space for plural accounts, but also consolidate a single narrative. For military museums, the key question is not how to make experiences more realistic or sensational, but how to preserve movement between experiential depth and reflective distance. Immersion should not be treated as a substitute for history, but as a process that brings visitors closer to historical complexity. When exhibitions accommodate affective, epistemic, and ethical dimensions, they may help visitors sense the weight of war while reflecting on the plurality of historical meanings. Whether the National Military Museum can become a cultural venue with genuine public significance may depend on whether immersive experience design expands, rather than restricts, the ways war can be understood.

4. **Cultural Memory and Sensory History in Immersive Military Exhibitions**

The preceding sections examined how museum institutions, discourses of power, and narrative immersion reshape visitors' positions and perceptual structures. This section returns to the concept of memory and draws on Assmann's theory of cultural memory as an integrative lens for rethinking immersive exhibitions in military museums. Assmann (2011) distinguishes between storage memory and functional memory within cultural memory. Storage memory refers to extensive historical materials and cultural traces that are not necessarily activated, whereas functional memory consists of elements selected by contemporary society, repeatedly referenced, and endowed with meaning (pp. 21-22, 36-40). Memory becomes cultural

memory when it is institutionally preserved in archives, monuments, and museums, and continually renewed through ritual, narrative, and education. In other words, cultural memory is sustained through selection and reinterpretation. Within this framework, military museums do not only preserve war-related artifacts; they also define, through exhibition structures, thematic organization, and interpretive language, which war experiences enter functional memory and which remain in storage memory or at the margins of forgetting. Recent scholarship on war memory and museums similarly suggests that state-level military exhibitions often function as "memory filters," offering a seemingly stable but highly selective version of memory within arenas of competing historical narratives (Denton, 2021; Daugbjerg & Whitehead, 2023). In Taiwan, where colonial experience, civil war legacies, the Cold War, and international competition continue to shape multiple historical narratives, immersive exhibition in a national military museum represents more than a display update. It intervenes in the reproduction of cultural memory through representation with heightened sensory persuasiveness.

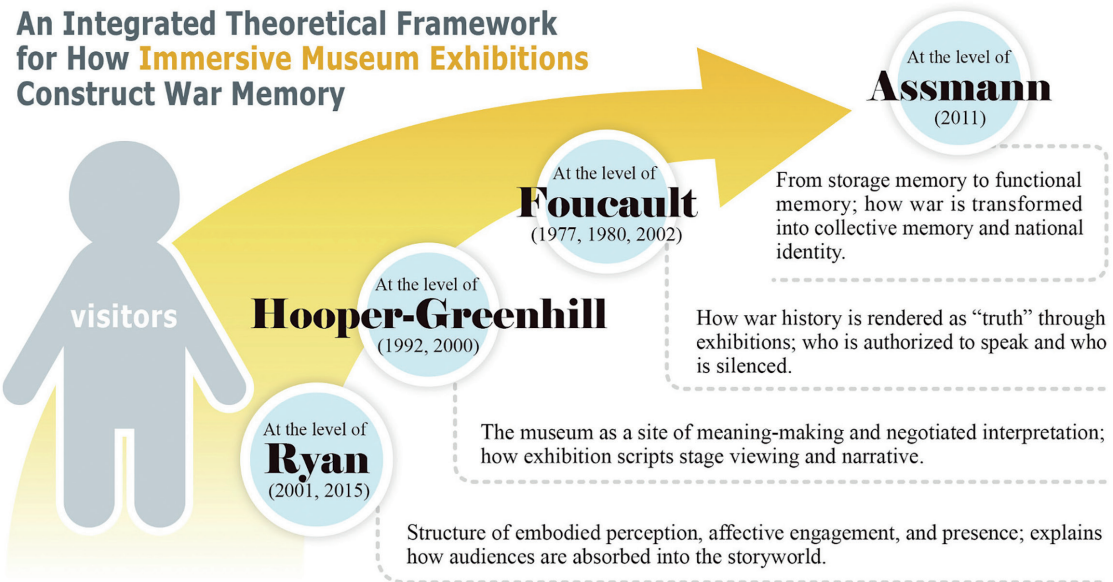
From Assmann's perspective, cultural memory relies not only on texts and objects, but also on ritualized practices such as commemorative days, mourning ceremonies, and collective visits (Assmann, 2011, pp. 48-52). In military museums, fixed visitor routes, chronological war-history narratives, and moments of silence or tribute can form a ritualized "theater of memory." Meechan and Vom Lehn (2024) argue that remembering in museums is an interactionally produced practice. Visitors engage with the past through linguistic resources, material cues, and situational contexts provided by exhibitions, rather than as an autonomous activity within the individual mind. Kharkhun's (2025) analysis of exhibitions on the war in Ukraine similarly shows that when personal objects, letters, and photographs are incorporated into state-level war narratives, their private affect is reconfigured into collective emotions such as grief, honor, and responsibility. This process can strengthen visitors' self-understanding as members of a national community. In national military museums, war memory is often transformed through ritualized display into collective identities available for identification. Visitors do not simply read about historical events; they also learn how to feel them through spatial rhythms and symbolic arrangements. These studies suggest that military museum exhibitions help define "who we are" while often delimiting the boundaries of "the other." What is displayed is therefore not only the material trace of war, but also a value-laden ordering of what is remembered and what remains marginal.

The introduction of immersive technologies may reconfigure the relationship between memory and ritual. If traditional exhibitions construct mnemonic frameworks through texts and objects, immersive exhibitions translate memory into sensory experience through vision, sound, space, and embodied sensation. Li et al. (2023) show that user experience, interactivity, and engagement are closely linked to immersive museum technologies. Aeschbach, Opwis, and Brühlmann (2022), however, caution that immersive sensory design can draw participants into narratives while obscuring their media-constructed nature. To address this issue, they propose "alienated play," which uses deliberate interruptions of immersion and cognitive distance to prompt reflection on narrative frameworks. Taken together, this scholarship suggests that immersive exhibitions in military museums may generate embod-

ied memory. Visitors may not only remember a battle, but also imagine bodily postures and affective responses as if they were "on the battlefield." This sense of being there is technologically produced. It can reduce the distance of historical events, but it may also embed national narratives, heroic imaginaries, or friend-enemy distinctions at sensory and affective levels.

In this context, the layered model conceptualizes immersive military exhibitions as visitor experiences (Ryan) embedded in institutional and curatorial frameworks (Hooper-Greenhill), shaped by discursive regimes of power/knowledge (Foucault), and connected to longer-term processes of cultural memory and identity formation (Assmann). This article proposes a preliminary integrative framework (Fig. 1) to understand how immersive exhibitions in national military museums operate across perception, knowledge, power, and identity.

Figure 1
Integrated Theoretical Framework Diagram



Source: Created by C. Yu-Chen (2026)

This framework emphasizes that immersive exhibition is not merely a technology or representational form. It is a cultural interface through which visitors enter designed historical scenes with their bodies, emotions, and senses, thereby recalibrating how war is understood. At the level of perception, presence, multisensory stimulation, and spatial enclosure reshape the distance between visitors and the past. At the level of knowledge, narrative configuration, selected historical materials, and modes of representation determine which memories are activated and which voices are excluded. At the level of politics and power, affective pacing, ritualization, and narrative cohesion allow particular values to become naturalized. At the level of identity, immersive exhibition shapes cultural understandings of who "we" are and how "we" relate to war. Immersive exhibition thus operates as a cultural technology that can both expand and constrain understanding. It bridges theory and practice, as well as the sensory and the political.

5. Conclusion

Synthesizing the theoretical and empirical discussions above, this article argues that narrative immersion, museum display, political power and knowledge, and cultural memory and identity form a connected analytical chain. Ryan's (2015) account of immersion explains how visitors are absorbed into storyworlds through embodied perception and consciousness. Hooper-Greenhill's (2000) post-museum framework reminds us that exhibitions are sites of co-produced meaning rather than one-way instruction. Foucault (1980, 2002) clarifies how "truth" is produced as a discursive effect rather than simply discovered. Assmann (2011) further shows how memory is selectively preserved and activated through ritual and institutional arrangements.

Applied to immersive exhibitions in Taiwan's National Military Museum, these four theoretical strands constitute a preliminary integrative framework. Within this framework, immersive technology is not merely a display form, but a cultural mediator that shapes how visitors sense war, understand history, and imagine community. From this perspective, the National Military Museum can be conceptualized as a "regulator of memory." Immersive experiences may reduce the distance between generations and war history, but the museum must also carefully manage affect and narrative to avoid reinforcing a single ideology. On this basis, this article proposes the following recommendations for future research and practice.

5.1. Recommendations for Research

First, longitudinal research is needed to trace how immersive experience shapes war memory construction and cultural identity over time. Much of the existing literature remains focused on one-time assessments of presence and satisfaction, as exemplified by Chang and Suh (2025) and Ariya et al. (2025). Future studies could employ pretest and posttest comparative designs to examine changes in memory content, affective orientations, and identity positions before, during, and after immersion. Such designs could also compare multi-perspectival immersive narratives with single-perspective narratives to assess differences in historical understanding and political attitudes.

Second, future research should incorporate variables such as generation, ethnicity, and political orientation to examine how different visitor groups interpret the same immersive scenario. This approach would clarify how national narratives operate in immersive display and support more inclusive and dialogic exhibition design. In addition, research may combine interaction analysis, sensing technologies, and qualitative interviews to capture multiple dimensions of visitor experience, including in-gallery behavior, conversational content, and post-experience accounts. Such triangulation can more precisely describe how visitors construct war memory through the interplay of body, language, and interpretation.

5.2. Recommendations for Practice

The framework also has practical implications for curatorial decision-making. Ryan's theory of narrative immersion suggests that curators should design immersive experiences that balance presence with reflection. Hooper-Greenhill's post-museum approach indicates the

need to involve multiple publics and stakeholders in interpretation. Foucault's perspective reminds curators to make narrative authority and source selection explicit. Assmann's cultural memory theory highlights the responsibility of deciding which memories are activated, ritualized, and connected to identity. These implications can be translated into curatorial guiding questions for immersive military and heritage museums.

Table 3
Curatorial Implications for Immersive Military and Heritage Museums

Theoretical Lens	Curatorial Question
Ryan	Does the immersive design allow visitors to feel presence without losing reflective distance?
Hooper-Greenhill	Are multiple publics and stakeholders included in the interpretation?
Foucault	Are the exhibition's sources, viewpoints, and narrative choices made transparent?
Assmann	Which memories are activated as collective memory, and which remain marginal?

Note: The theoretical lenses are listed in the order of analysis and translated into practical curatorial questions.

In planning immersive exhibitions, Taiwan's National Military Museum may consider the following directions. First, at the level of narrative structure, the museum should prioritize multi-perspectival and contrapuntal narration so that immersive technologies do not reinforce a single heroic or national victory-oriented narrative. Perspectives of soldiers, civilians, prisoners of war, medical personnel, bereaved families, and opposing combatants can be juxtaposed through scenario shifts, viewpoint switching, and dialogic interfaces. This approach can help visitors engage with historical plurality while remaining immersed.

Second, in terms of spatial rhythm, the museum can configure immersive zones alongside reflection zones. The former enables deep engagement, whereas the latter supports temporary withdrawal from affect through source comparison, interpretive labeling, multi-version narratives, and guiding questions. This mild distancing corresponds to the alienation mechanism proposed by Aeschbach et al. (2022), which is conducive to reflective engagement.

Third, information transparency and traceability should be strengthened. This may include clear citation of sources, explanations of the degree of reconstruction or virtualization, and interactive interfaces for archival searching. Such measures allow visitors to examine curatorial choices and recognize that what they see is not the only possible account of history.

Fourth, at the level of affective ethics, the museum should avoid aestheticizing war as spectacle and treat death, trauma, and violence with restraint and respect. Where appropriate, psychological expertise and support resources can provide visitors with mechanisms for emotional regulation after intense experiences.

Fifth, regarding participatory mechanisms, the museum may adopt co-creation approaches advocated by Simon (2010) and Derda (2024). This could involve veterans, military families, educators, students, and local communities in curatorial processes. Such participation ensures that immersive exhibitions are not only about these stakeholders but also developed with them as contributors to shared memory-making.

In sum, immersive media in military museums embody a duality that resists simple judgment. On the one hand, immersive technologies can help visitors traverse temporal distance and reengage with war in concrete and affectively grounded ways. On the other hand, audiovisual orchestration and environmental enclosure may consolidate a single political interpretation, turning war history into an emotionally persuasive narrative. For this reason, if the National Military Museum can position itself as a "regulator of memory" and sustain a productive tension between immersion and critique, immersive exhibition may become more than a technical innovation. It may also offer an opportunity for society to relearn how war memory can be constructed, contested, and revised. This positioning establishes a theoretical and practical foundation for future case studies, comparative research, empirical investigation, and longitudinal designs, enabling immersive exhibition to move from an exhibition technique to a critical entry point for understanding the politics of war memory.

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INCLUSIVE MUSEUMS IN FRANCE: BRIDGING ACCESSIBILITY AND CULTURAL DIVERSITY FOR A SHARED HERITAGE

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Abstract

This paper explores France's evolving museum policies and best practices aimed at fostering inclusion for increasingly diverse audiences. Focusing on both physical and cognitive disabilities, as well as socio-cultural diversity, the study highlights how French museums are actively working to dismantle longstanding barriers to access, representation, and participation. It examines how inclusion is not only a matter of accessibility compliance but also a broader institutional commitment to equity and social engagement. Through a critical analysis of national frameworks, public policies, and concrete initiatives, the paper investigates a range of innovative practices. These include sensory and multisensory tours, adapted communication tools such as easy-to-read materials and digital aids, staff training programs, and community outreach initiatives designed to engage underrepresented groups. The study also emphasizes the importance of audience integration, bringing together visitors from varied social, cultural, and linguistic backgrounds to foster intercultural dialogue and mutual understanding within museum spaces. By examining these inclusive strategies, the paper argues that museums are progressively redefining their social role. Ultimately, this presentation contributes to the broader discourse on how cultural heritage institutions can act as dynamic catalysts for social equity, accessibility, and cultural inclusion in contemporary society.

Keywords

Museum Accessibility, *Inclusive Museums*, *Cultural Diversity*, *Cultural Heritage*, *Universal Design*, *Digital Inclusion*, *Cognitive Accessibility*, *Sensory Accessibility*

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In recent decades, museums have increasingly been recognized not only as spaces for the preservation and presentation of cultural heritage, but also as social institutions with a responsibility to ensure equitable access to culture for all members of society (Black, 2012; Sandell, 2007; UNESCO, 2015). Within this evolving paradigm, inclusion has emerged as a central concern, encompassing physical, sensory, cognitive, social, and cultural dimensions of accessibility. In France, this transformation has been strongly shaped by legislative frameworks, public policies, and professional practices aimed at dismantling barriers to participation and redefining the relationship between museums and their audiences (France, 2005; France, 2006).

This article aims to analyze how inclusive practices have been developed and implemented in French museums since the 2005 law for people with disabilities, and to assess their broader impact on diverse audiences. It seeks to demonstrate how inclusion-oriented measures, initially designed for specific groups, contribute to a wider transformation of museum practices and public engagement.

The study adopts a qualitative approach based on the analysis of legislative texts and selected case studies from French museums. It combines theoretical perspectives on cultural accessibility with concrete examples of inclusive practices in order to identify broader trends in the sector.

Through this combination of theoretical perspectives and practical examples, the study highlights how inclusive practices are progressively benefiting broader and more diverse publics, thereby positioning museums as key actors in the promotion of social equity, cultural diversity, and shared heritage.

Methodology

This study adopts a qualitative and exploratory research approach combining document analysis and case-study methodology. The research is based on three complementary sources: (1) French legislative and policy documents relating to accessibility and disability rights, particularly the Law of 11 February 2005 and its subsequent implementing decrees

(France, 2005; France, 2006); (2) academic literature in museum studies, inclusive museology, disability studies, and cultural participation; and (3) selected examples drawn from French museums and cultural institutions.

The institutional cases were selected according to their relevance to different dimensions of inclusion identified in the literature: Physical accessibility, sensory accessibility, cognitive accessibility, digital accessibility, and socio-cultural inclusion. Priority was given to museums that have developed documented initiatives addressing one or more of these dimensions while representing the diversity of institutional structures within the French museum sector. Rather than aiming for statistical representativeness, the selection illustrates the variety of inclusive approaches adopted by national, regional, thematic, and ministry-supported museums.

The analysis follows a thematic approach. Individual initiatives were examined in relation to the type of accessibility they promote, the audiences they target, and their contribution to broader inclusion objectives. Rather than evaluating institutional performance, the study seeks to identify emerging practices and interpret them within contemporary theoretical debates on accessibility, participation, and cultural democracy. This approach makes it possible to assess how inclusion-oriented measures contribute to the transformation of museum practices and to the diversification of cultural participation.

1. **Legal Framework**

In 2005, France took a significant step toward inclusion. Law No. 2005-102 of 11 February 2005 on Equality of Rights and Opportunities, Participation, and Citizenship of People with Disabilities (France, 2005) marked a turning point for individuals in vulnerable situations within society. By introducing measures aimed at improving accessibility and promoting the active participation of individuals in social life – such as voting, access to education, and employment – this legislative act seeks to ensure equality for people with disabilities in social, professional, and cultural terms (Bickenbach, 2009; Winance, 2007). Universal accessibility constitutes its core principle, encompassing both physical and digital access to public buildings, transportation, and services. Through this law, France affirms its position as a social state committed to all its citizens.

Decree No. 2006-555, issued on 17 May 2006 (France, 2006) further clarified the legal framework and established a ten-year deadline within which institutions, including cultural ones, were required to comply with the new standards (Revillard, 2017). However, the reality proved more complicated. Between 2005 and 2015, progress across various public institutions was moderate. The costs of renovation work were high, and the technical challenges of adapting buildings classified as cultural heritage monuments were particularly significant. Despite the implementation of public funding programs, the 2015 deadline was postponed due to delays in the completion of the works. Since 2017, enforcement measures have been strengthened, alongside increased financial support for both the technical adaptation of museum institutions and the appropriate training of museum staff. While these developments consolidated long-term efforts to improve physical and institu-

tional accessibility, the question of inclusion took on new dimensions in response to more recent societal disruptions. The COVID-19 pandemic in particular marked a turning point in how museums approached access and audience engagement.

The COVID-19 pandemic also had a considerable impact on museum activities and accelerated the redefinition of accessibility and inclusion strategies (UNESCO, 2021). New social needs emerging during this period prompted museums to develop alternative forms of engagement, particularly through digital mediation and remote access to collections. These adjustments highlighted both existing inequalities in access to cultural content and the need to strengthen inclusive practices beyond physical spaces. As a result, the pandemic acted as a catalyst for rethinking audience inclusion, encouraging institutions to diversify their communication tools and reinforce support for vulnerable and digitally excluded publics.

2. **Accessibility and Inclusion in Museum Practice**

Within the cultural sector, and particularly in museums as public-facing institutions, accessibility measures can be understood through three interconnected dimensions: Physical access, sensory accessibility, and cognitive inclusion. These dimensions are supported and reinforced by cultural mediation, which plays a central role in facilitating the visitor experience. Cultural mediation encompasses a wide range of interpretative tools designed to enhance access to collections, including exhibition labels, audio guides, interactive screens, QR codes, brochures, catalogues, and other printed materials, as well as face-to-face mediation provided by museum professionals (Desvallées & Mairesse, 2010; Hooper-Greenhill, 2000). In parallel, the legal framework has progressively emphasized access to cultural content, encouraging museums to develop more inclusive mediation practices and to move toward fully accessible exhibitions incorporating tactile, auditory, and visually adapted devices (Black, 2012).

These three dimensions correspond directly to the three main categories of accessibility practices discussed below. Building on this conceptual framework, accessibility in museum practice can be structured around three main categories of action.

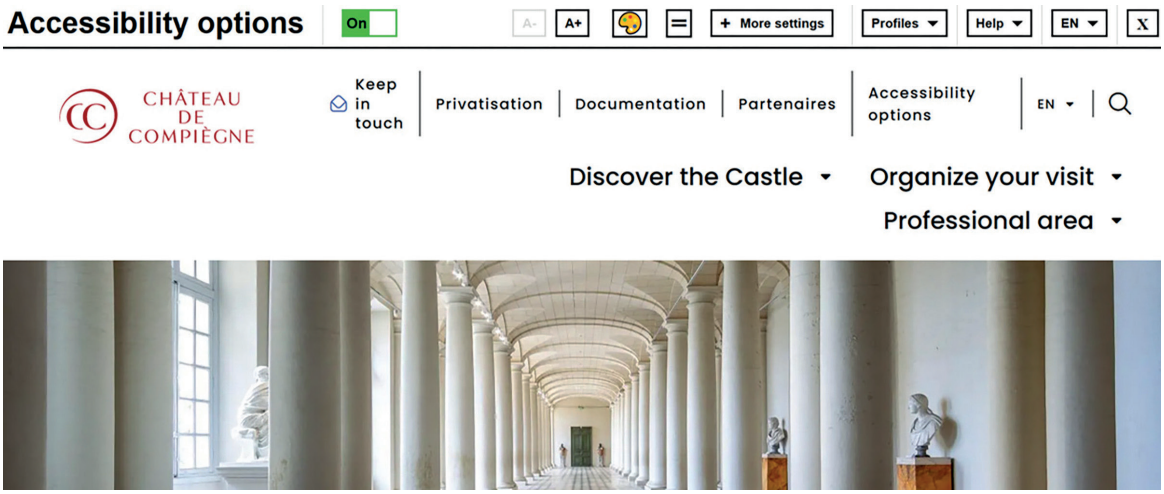
The first category concerns physical accessibility, which addresses mobility-related needs. Visitors with limited mobility require adapted infrastructure to ensure equal access to museum spaces. This includes wheelchair ramps, elevators, adapted restrooms, designated parking spaces, non-slip flooring, tactile markings, and automatic doors, all of which contribute to a more inclusive architectural environment.

The second category focuses on sensory accessibility, particularly for visitors with visual and hearing impairments. Measures include induction loops for improved sound transmission, audio descriptions and subtitles for exhibitions, as well as Braille materials and sign language interpretation. Museums also develop tactile replicas and relief models of artworks to enhance multisensory engagement. In addition, auditory and visual emergency systems are essential to ensure safety and accessibility for all visitor groups.

The third category addresses cognitive accessibility, which has become increasingly important in contemporary museum practice. This includes the development of tailored visits for individuals with cognitive impairments, featuring adapted mediation tools such as guided tours led by trained professionals, reduced duration, and interactive formats. Simplified materials – such as illustrated panels, accessible brochures, and structured information sheets – support comprehension and engagement. Rest areas are also provided in some institutions to reduce cognitive overload and support visitor well-being.

In recent years, museums have had to respond to a broader spectrum of cognitive needs linked to attention, memory, and perception challenges, including autism spectrum disorders and post-COVID conditions. Invisible disabilities, in particular, require museums to adapt existing accessibility strategies (Falk & Dierking, 2013). Visitors experiencing concentration or sensory overload may benefit from shorter, thematically focused visits with clear, structured interpretation and reduced stimuli. Interactive maps and carefully designed exhibition pathways further help to reduce cognitive fatigue.

Figure 1
Accessibility options menu, Château de Compiègne website



For visitors with dyslexia, accessibility measures include simplified texts, short sentences, clear vocabulary, and the integration of diagrams and images (Fig. 1). Some museums also use dyslexia-friendly fonts and increased spacing to improve readability (Rix & Sheehy, 2014). Rest areas and relaxation spaces complement these approaches, allowing visitors to manage sensory or cognitive fatigue (Fig. 2). In some cases, museums also offer relaxation sessions before or after visits as part of a broader well-being-oriented approach.

Specific programs have also been developed for visitors living with dementia, autism, and similar conditions (Chatterjee & Noble, 2013; Silverman, 2010). Autism spectrum friendly visits often emphasize multisensory engagement through sound, scent, touch, and visual stimuli, supported by specially trained staff. Creative workshops provide alter-

native forms of expression for participants with communication or comprehension difficulties. Some institutions also organize low-stimulus visiting hours or tactile-focused visits to ensure a calmer, more comfortable experience and more personal engagement with artifacts.

More broadly, museums increasingly offer individualized or small-group visits adapted to specific needs, allowing for flexible pacing, repetition, and personalized interpretation (Simon, 2010). These approaches strengthen direct engagement with collections while supporting diverse visitor profiles.

Figure 2
"La Bulle" relaxation area, Musée national de la Marine



Technology also plays a crucial role in advancing inclusion. Building on the principles established by the 2005 law, digital accessibility has become a key concern, particularly in relation to museum websites. Features such as adjustable text size, audio reading tools, and high-contrast interfaces are now standard accessibility requirements (Parry, 2007; Tallon & Walker, 2008). Museums have also developed mobile applications that provide real-time information, interactive maps, and audio guides, which are particularly beneficial for visitors with sensory impairments.

Since 2020, the role of digital technology in museum practice has expanded significantly. Virtual tours using 3D mapping technologies (Fig. 3), online exhibitions (Fig. 4), and hybrid digital platforms have become more widespread. These developments have increased access for individuals unable to visit physically, including those living in remote areas or in institutional settings such as hospitals or care homes (Economou, 2015). Virtual experiences may be self-guided or facilitated by trained professionals, further extending the museum's inclusive reach.

Taken together, these developments demonstrate that accessibility in museums is no longer limited to physical adaptation, but increasingly reflects a broader commitment to cognitive, sensory, and digital inclusion as interconnected dimensions of cultural participation.

Figure 3
Virtual tour, Chapelle de Montmorency, Musée national de la Renaissance

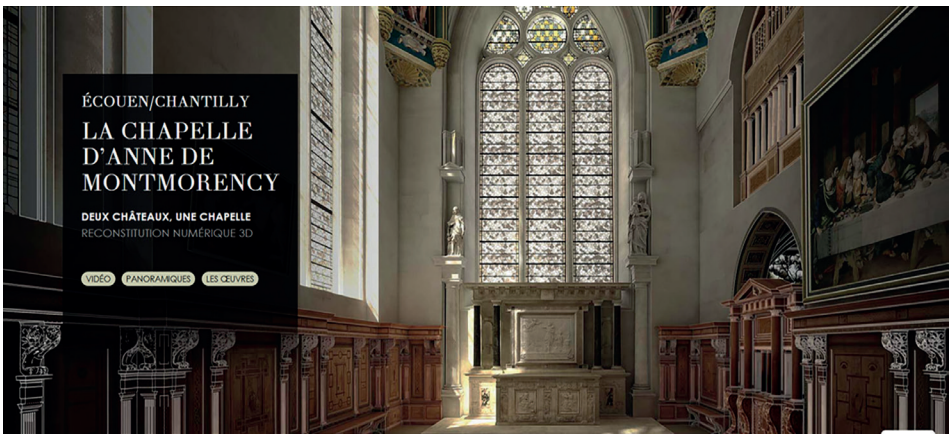


Figure 4
Miro online exhibition, Centre Pompidou



3. **Inclusion in the Contemporary Context: Examples from France**

Since 2005, and more markedly in the post-2020 context, significant societal transformations have reshaped approaches to cultural access and participation. Mediation practices, initially developed to address the needs of specific groups, have progressively evolved and diversified to engage a much wider range of visitors, including those from varied social and cultural backgrounds. Despite these developments, the underlying objective remains consistent: To guarantee equal access to culture for all citizens (Sandell, 2007).

In this context, on-site museum mediation, audio guides and mobile applications constitute the most widely adopted tools. These resources are typically accessed via museum-provided materials, QR codes, or dedicated mobile platforms (Fig. 5), often directly on visitors' personal devices. In a contemporary context marked by accelerated digital consumption, museum audiences increasingly favour shorter, more focused visits that priori-

tise clear and accessible information, alongside more sensorial forms of engagement (Falk & Dierking, 2013). This shift has encouraged museum professionals to further develop interpretative strategies that enhance visitor interaction with cultural content through more immediate and experiential forms of mediation.

Figure 5
Mobile App, Musée national de la Renaissance

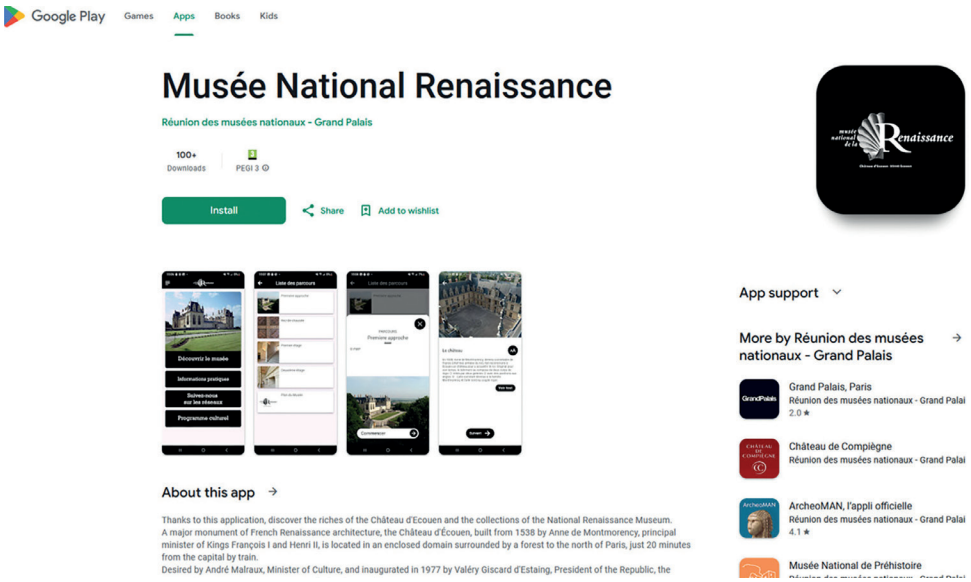


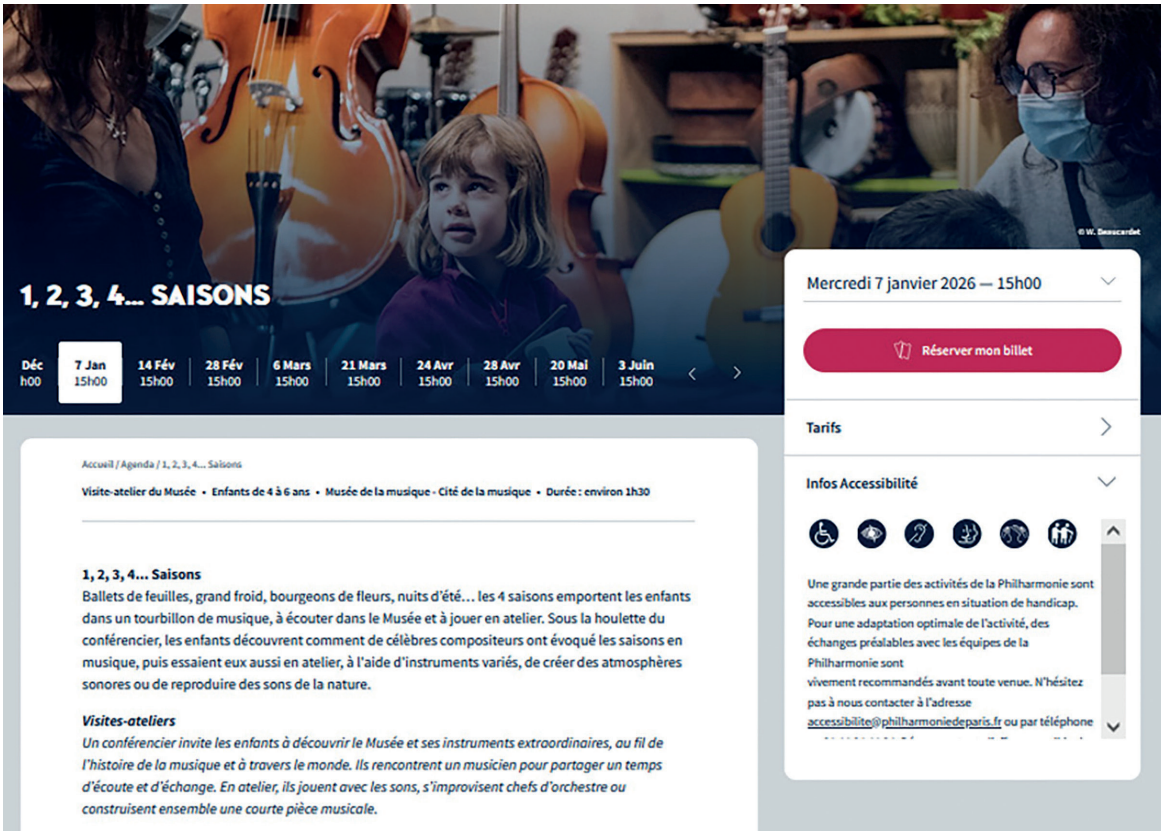
Figure 6
Family workshop, Musée de Cluny



Against this backdrop, Paris occupies a central position in the European museum landscape, functioning as a major hub for cultural innovation and audience engagement. The city's exceptionally dense and diverse museum offer is characterised by strong institutional competition, which in turn encourages the development of increasingly immersive and participatory forms of mediation. Within this context, the Paris-based Musée de la musique at the Philharmonie illustrates a particularly advanced approach to sensory and cognitive accessibility. Moving beyond traditional models of cultural transmission, the museum promotes active visitor participation through sound-based and experiential engagement strategies. For visitors with cognitive difficulties, tailored workshops further extend this approach by combining tactile interaction with musical instruments, multisensory exploration, and structured pedagogical support, thereby reinforcing accessibility through embodied and experiential learning rather than purely informational access.

Beyond Paris, museums across France have increasingly developed a wide range of activities aimed at diversifying visitor experiences and broadening access to cultural content. This emphasis on territorial outreach reflects a commitment to offering more locally accessible museum experiences and to strengthening inclusive cultural participation across diverse audiences.

Figure 7
1,2,3,4...Saisons workshop, Musée de la musique, Philharmonie de Paris



Within this framework, the Musée d'arts de Nantes and the Musée de l'Impression sur Étoffes de Mulhouse, for example, offer sensory visits that encourage tactile engagement with materials, models, and sculptural reliefs, thereby enhancing visitors' interaction with collections through multisensory approaches.

Figure 8
Participatory workshops, Musée d'arts de Nantes

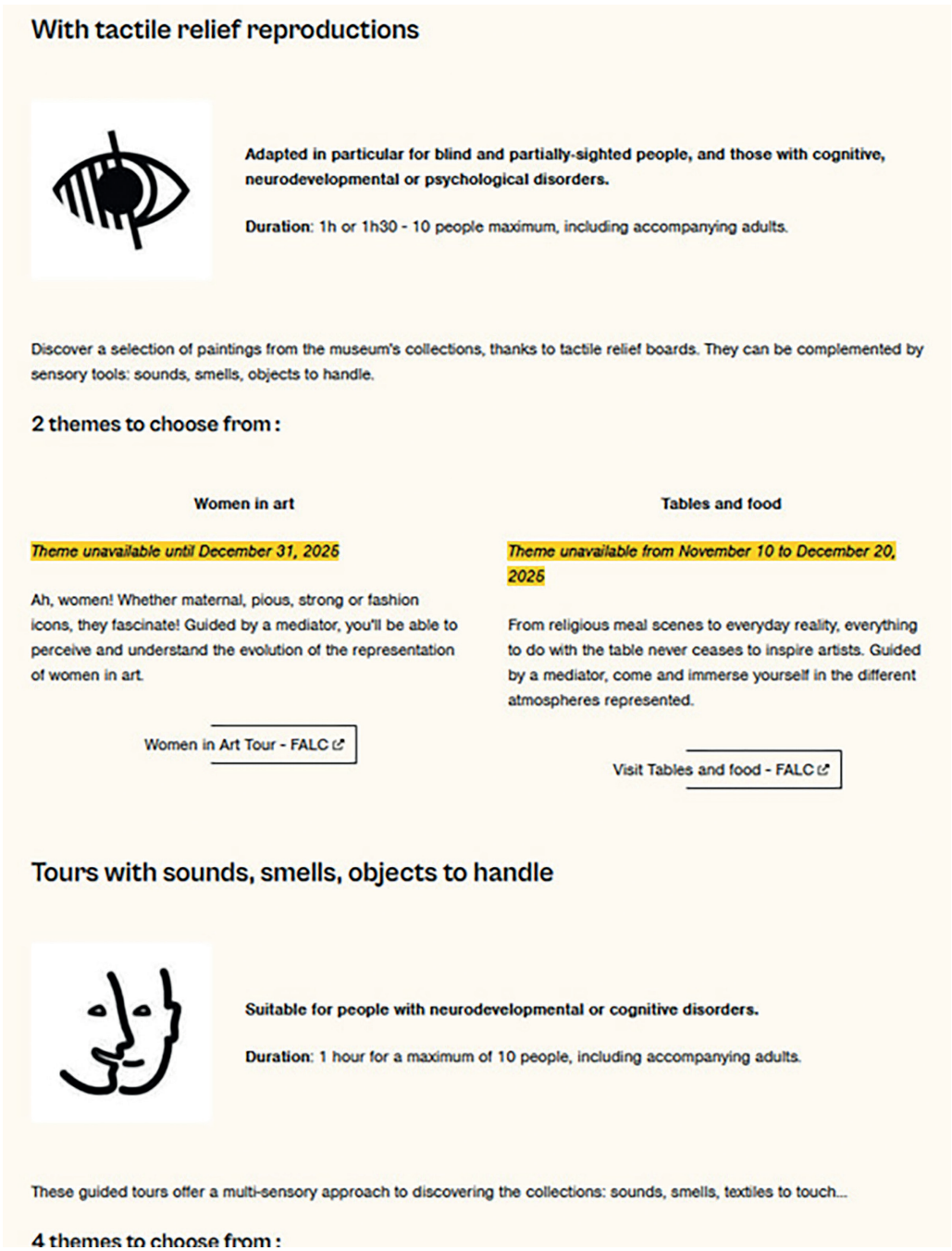


Figure 9
Guided immersive tour, Musée d'arts de Nantes

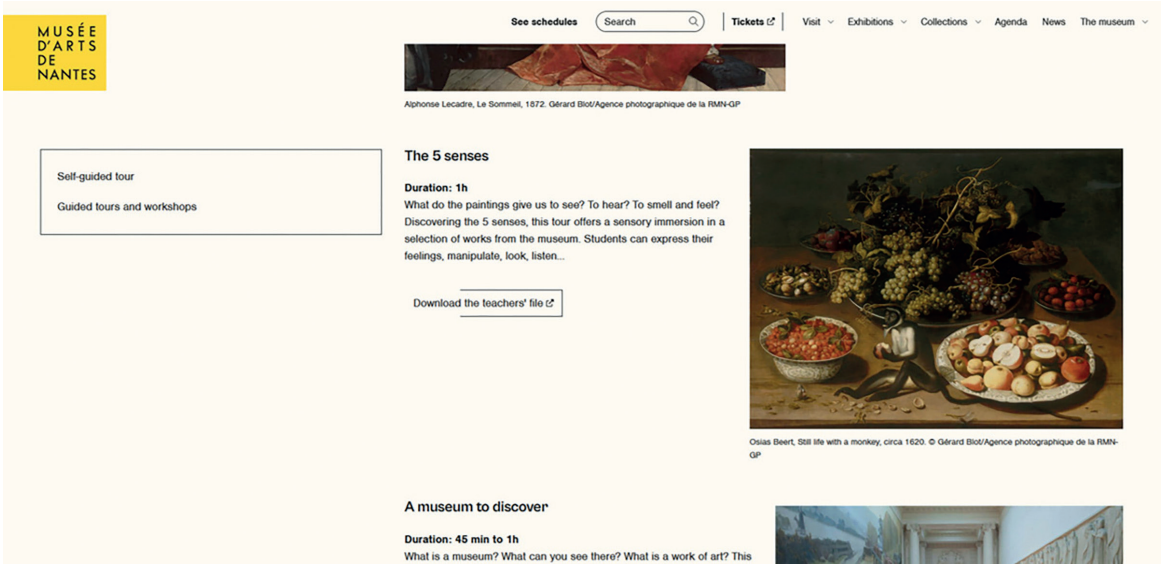


Figure 10
Creative workshop, Musée de l'impression sur les étoffes, Mulhouse



Alongside these developments, "easy-to-read and easy-to-understand" materials, originally designed for individuals experiencing difficulties in processing complex information, have expanded considerably in recent years. Today, these resources also address the

needs of visitors for whom French is not a first language. In this perspective, dedicated workshops for both students and adults combine sensory-based activities with museum visits, integrating cultural content into language-learning sessions focused on French vocabulary and terminology. In parallel, simplified texts are becoming more visible within museum spaces. Initially developed for specific cognitive or linguistic needs, these tools have progressively demonstrated their broader value in supporting the comprehension and accessibility of museum content for diverse audiences.

Figure 11
"Easy-to-read and easy-to-understand" (FALC) document, Cité de l'architecture



A similar broadening of audience engagement can be observed in the development of interpretative materials for young visitors. Clearly identified within exhibition spaces, these annotations provide simplified and accessible information, initially more commonly associated with temporary exhibitions but now increasingly integrated into permanent collections. This development reflects a broader extension of the target public, as interpretative tools are no longer limited to children of school age but are also adapted for toddlers and, in some cases, infantsv. By strengthening the link between sensory perception and museum spaces from an early stage in life, these initiatives contribute to familiarising a much wider and more diverse range of publics with museum culture. The museum experience thus becomes an increasingly inclusive educational space, embedded in broader strategies aimed at audience diversification and lifelong cultural engagement.

Finally, it is essential to underline the role of public institutions in supporting the development and diversification of museum offerings. In this regard, the French Ministry of Culture plays a central role in promoting innovation and expanding access to cultural content through digital technologies. Two recent initiatives illustrate both the growing importance of these tools and their potential for large-scale cultural dissemination.

The first initiative concerns the provision of inclusive digital cultural content for individuals who are physically distant from cultural institutions. Through digital platforms such as *the Catalogue des visites en ligne des musées*, the Ministry provides access to a catalogue of virtual museum visits that can also be used by professionals trained to work with audiences with specific needs. This initiative forms part of a wider process of digitising museum spaces and collections, a trend that was significantly accelerated during and after the COVID-19 pandemic, which highlighted the importance of remote access to culture.

Building on this dynamic, the second example is an innovative immersive virtual museum experience developed as an extension of existing virtual tour systems. Designed to enhance accessibility on a global scale, this product is conceived as an open and collaborative initiative, actively encouraging international partnerships in order to extend its use beyond the national context. In this perspective, the project enables the adaptation and translation of its content into multiple languages, facilitating its appropriation by foreign institutions and audiences – as illustrated by its availability in North Macedonian and Albanian.

Figure 12
Catalogue des visites en ligne des musées, digital platform, Ministry of Culture, France



Figure 13
Immersive virtual museum experience, YouTube demonstration video, page view



Figure 14
Immersive virtual museum experience, YouTube demonstration video, page view



Figure 15
Immersive virtual museum experience, YouTube demonstration video, page view showing language options



Taken together, these initiatives illustrate the sustained commitment of public institutions to strengthening inclusion and expanding access to cultural heritage through digital innovation, consolidating the role of museums as key actors in contemporary cultural accessibility.

A comparison of the selected examples highlights the multidimensional nature of inclusion in contemporary French museums. While all institutions share the objective of broadening access to cultural heritage, they contribute to this goal through different strategies. Replace Philharmonie de Paris with Musée de la musique at the Philharmonie primarily emphasizes sensory and cognitive inclusion through sound-based mediation, tactile interaction, and adapted workshops. The Musée d'arts de Nantes and the Musée de l'Impression de Mulhouse sur Étoffes focus on sensory accessibility by encouraging tactile exploration and multisensory engagement with collections. The Musée de Cluny extends inclusion into the socio-cultural sphere through language-learning workshops and programmes designed for very young children, thereby supporting both linguistic accessibility and early cultural participation.

Digital inclusion is particularly visible in the initiatives supported by the Ministry of Culture, including virtual museum visits, online exhibitions, and immersive digital environments that provide access for geographically distant audiences and individuals unable to visit museums in person. These projects complement rather than replace physical accessibility measures by expanding opportunities for cultural participation beyond museum walls.

Taken together, these cases demonstrate that inclusion cannot be reduced to a single category of accessibility. Instead, French museums increasingly combine physical, sensory, cognitive, digital, and socio-cultural approaches, reflecting a more holistic understanding of audience diversity and cultural participation. The diversity of these initiatives also illustrates the gradual transition from targeted accessibility measures toward broader models of inclusive museum practice grounded in the principles of universal design and cultural democracy.

4. From Accessibility to Inclusion: A Critical and Theoretical Perspective

While the development of accessibility measures in French museums reflects significant institutional progress, these practices also invite a broader critical and theoretical reflection on the nature and scope of inclusion in contemporary museology. Beyond the implementation of technical solutions, inclusion raises fundamental questions about how museums define their publics, construct knowledge, and negotiate power relations within cultural spaces.

From the perspective of inclusive museology, museums are no longer understood as neutral spaces of cultural transmission, but as socially embedded institutions that actively shape narratives, identities, and forms of participation (Black, 2012; Sandell, 2007). This shift can be situated within a broader transition from a model of cultural democratization – focused on widening access to established cultural forms – to one of cultural democracy, which recognizes the legitimacy of multiple voices, experiences, and modes of engagement. In this context, accessibility initiatives can be interpreted not only as responses to legal obligations, but also as indicators of a deeper transformation in institutional values and epistemologies. This perspective aligns with more recent work emphasizing the role of museums as actors in the field of human rights and social justice, where inclusion is understood as an ethical and political commitment rather than solely a technical or institutional obligation (Sandell, 2017).

At the same time, insights from disability studies – particularly the social model of disability (Oliver, 1990) – highlight the extent to which exclusion is produced by institutional structures rather than individual limitations. From this perspective, barriers within museums are not limited to physical obstacles, but also include curatorial choices, interpretive frameworks, and implicit assumptions about audience knowledge and behaviour. The development of cognitive and sensory accessibility tools therefore represents a significant epistemological shift, as it challenges traditional norms of exhibition design and expands the range of legitimate ways of engaging with cultural content.

However, this transformation remains marked by important tensions. On the one hand, the multiplication of inclusive practices suggests a growing awareness of audience diversity and a willingness to adapt institutional formats. On the other hand, there is a risk that inclusion becomes fragmented into a series of targeted measures, rather than being fully integrated into the structural and conceptual foundations of museum practice. As Nina Simon (2010) argues, participatory approaches require not only new tools, but also a redistribution of authority and a reconfiguration of institutional roles. In this sense, accessibility may remain limited if it is not accompanied by deeper changes in curatorial practice and decision-making processes.

Furthermore, the extension of accessibility tools to broader audiences raises important analytical questions about the nature of inclusion itself. Practices initially designed for visitors with disabilities – such as simplified texts, multisensory mediation, or flexible visit formats – have demonstrated their wider relevance for diverse publics, including non-native speakers, children, and visitors with varying levels of cultural capital. This convergence supports the principles of universal design, suggesting that inclusive approaches can enhance the museum experience for all. At the same time, it also requires careful consideration to avoid diluting the specific needs and experiences of particular groups within a generalized model of accessibility.

The increasing reliance on digital technologies further complicates this landscape. While digital mediation has expanded access to cultural content and enabled new forms of engagement, it also introduces new inequalities linked to access, digital literacy, and technological infrastructure. As highlighted in recent museum studies literature, digital inclusion must therefore be approached critically, as a situated practice rather than a universal solution (Economou, 2015; Parry, 2007).

Ultimately, the evolution of inclusive practices in French museums reflects an ongoing negotiation between policy frameworks, institutional constraints, and evolving social expectations. Inclusion, in this sense, should not be understood as a fixed objective that can be definitively achieved, but as a dynamic and reflexive process. It requires continuous evaluation, theoretical engagement, and a willingness to question established norms in order to move beyond formal accessibility toward more meaningful and equitable forms of cultural participation.

5. **Conclusion**

The development of inclusive practices within French museums reflects a significant shift in the cultural sector, moving beyond a model centred solely on preservation toward one that increasingly prioritises accessibility, participation, and social responsibility. While the legislative framework established since 2005 has played a decisive role in initiating this transformation, inclusion cannot be reduced to a matter of regulatory compliance. As the preceding analysis has shown, it involves a deeper reconfiguration of institutional practices, interpretive frameworks, and relationships with audiences.

However, this evolution remains uneven and raises several critical challenges. The implementation of inclusive measures varies considerably between institutions, often depending on financial resources, institutional scale, and geographic location. Large, well-funded museums are generally better equipped to develop innovative programmes and digital tools, whereas smaller or regional institutions may struggle to meet the same standards. This disparity risks reinforcing existing cultural inequalities, despite the universalist ambitions underpinning national policies.

Moreover, while the expansion of digital technologies has significantly broadened access to cultural content, it has also revealed new forms of exclusion. The digital divide continues to limit access for certain populations, particularly those lacking technological resources or digital literacy. In line with the critical perspective developed in this article, digital innovation should therefore be understood not as a substitute for physical access, but as a complementary dimension that requires careful and inclusive implementation.

Finally, the growing emphasis on inclusion raises the question of its depth and sustainability. There is a risk that certain initiatives remain symbolic or project-based, rather than being fully integrated into long-term institutional strategies. As discussed in the theoretical framework above, meaningful inclusion implies not only the multiplication of accessible tools, but also a structural transformation of museum practices, including greater reflexivity, audience participation, and the redistribution of interpretive authority.

Ultimately, French museums are progressively redefining their social role, positioning themselves as key actors in the promotion of cultural democracy and social equity. Yet, the transition toward fully inclusive institutions remains an ongoing process – one that demands sustained institutional commitment, critical engagement, and continuous adaptation in order to ensure that access to cultural heritage becomes a genuine and shared reality for all.

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SUSTAINABLE CULTURAL TOURISM IN HISTORICAL CITY CENTERS: INTEGRATING ELECTRIC MOBILITY AND PEDESTRIANIZATION WITHIN A HOLISTIC PUBLIC TRANSPORTATION SYSTEM – A GÖREME CASE STUDY

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SUSTAINABLE CULTURAL TOURISM IN HISTORICAL CITY CENTERS: INTEGRATING ELECTRIC MOBILITY AND PEDESTRIANIZATION WITHIN A HOLISTIC PUBLIC TRANSPORTATION SYSTEM – A GÖREME CASE STUDY

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Abstract

This paper presents an integrated framework for sustainable and inclusive cultural tourism designed to mitigate the environmental and morphological impacts of fossil-fuel traffic on historical city centers. Focusing on the "Göreme Kent Meydanı ve Yakın Çevresi Kentsel Tasarım Projesi", a collaboration between the Abdullah Gül University Technology Transfer Office and the Göreme Municipality, the study proposes a pedestrian-oriented mobility strategy that integrates electric vehicle (EV) access into the public transportation network of the Göreme UNESCO World Heritage Site. Aligned with the European Green Deal, the Paris Agreement, and United Nations SDGs 3 and 11, the framework addresses the degradation of stone surfaces and public health risks caused by conventional transport by leveraging the near-zero local emissions and reduced noise of EVs. The strategy specifies appropriate vehicle types, such as small electric carts and minibuses, and details a spatially optimized charging infrastructure featuring peripheral DC fast-charging stations and hotel, integrated AC Level 1 chargers. Ultimately, the Göreme EV program serves as a pilot initiative for heritage sites across Turkiye, concluding that long-term success requires systemic change supported by empirical data on tourist flows and the link between emissions and the preservation of Cappadocia's unique geological formations.

Keywords

Sustainable Cultural Tourism, *Heritage Sites*, *Technology of Mobility*, *Pedestrianization*, *Göreme*

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The United Nations Educational, Scientific and Cultural Organization (UNESCO) adopted the Convention Concerning the Protection of the World Cultural and Natural Heritage in 1972, establishing an international framework for the identification, protection, and preservation of cultural and natural sites recognized as having outstanding universal value. A fundamental principle of the World Heritage concept is its global applicability: Such sites are understood to constitute the shared heritage of all humanity, regardless of national boundaries or territorial jurisdiction (UNESCO World Heritage Centre, n.d.).

The term World Heritage designates the most significant historical and archaeological sites across the globe. The aim of this designation is to safeguard and conserve these sites, ensuring they remain as lasting evidence of our history for future generations. The study of history and civilizations is vital not only for promoting learning and progress, but also for preserving cultural and natural heritage so that it can be passed on to future generations. One remarkable World Heritage site of Göreme, which is situated in the Cappadocia region of Turkiye, will be the central focus of this research paper.

Although a wide range of factors affect World Heritage sites, climate change represents the most critical and pervasive threat. Its impacts extend to the outstanding universal value of many properties, compromising their integrity and authenticity, while also influencing the economic and social development of surrounding communities. Consequently, climate change poses substantial risks not only to heritage preservation but also to the quality of life of the populations whose cultural, social, and economic well-being is closely tied to these sites (UNESCO World Heritage Committee, 2023). Recognizing the severity of this threat, UNESCO has adopted a more pragmatic and action-oriented approach to climate mitigation, moving beyond purely conceptual frameworks. This shift is reflected in the Updated Policy Document on Climate Action for World Heritage (UNESCO World Heritage Committee, 2023), which establishes concrete targets for reducing climate-related impacts, strengthening resilience and adaptive capacity, and embedding climate-responsive conservation practices into the management of World Heritage properties.

Among the principal drivers of climate change are transportation systems, which constitute a major source of greenhouse gas emissions, carbon dioxide, and other air pollutants. Globally, the transportation sector is responsible for approximately 23% of total emissions, with road transport accounting for roughly 74% of this share (Kahn Ribeiro et al., 2007). Because road transport plays a central role in tourism mobility, the tourism sector contributes an estimated 75% of these transport-related emissions. While the environmental damage caused by such emissions is widely acknowledged, their effects on World Heritage sites are particularly acute: Elevated pollution levels accelerate the deterioration and erosion of historic materials, thereby threatening the long-term preservation of these irreplaceable cultural and natural assets.

This research paper examines the impacts of transportation-related emissions on heritage and archaeological structures, with a particular focus on the case of Göreme. It assesses the potential deterioration associated with current emission levels and evaluates the inadequacy of conventional transportation modes within the site's narrow and sensitive spatial context. Building on this analysis, the study proposes urban planning and design strategies and environmentally appropriate mobility solutions tailored to Göreme's unique heritage landscape. The broader aim is to draw attention within Turkiye to the urgent need for sustainable mobility in heritage settings and to position Göreme as a pilot example that can inform similar interventions at World Heritage sites across the country and globally.

1. **Climate Change and its Accelerating Impacts on World Heritage**

World Heritage sites are increasingly vulnerable to a wide range of environmental pressures, with climate change and associated pollutant emissions emerging as among the most significant threats. Elevated greenhouse gas (GHG) emissions driven in large part by tourism-related transportation intensify climatic shifts and directly contribute to the deterioration of cultural and natural heritage. Tourist mobility, particularly during peak seasons, substantially increases localized emissions in both natural and historical settings (IUCN World Heritage, 2020). The transportation sector is a key driver of this trend: Over the past three decades, it has been the only major sector in which GHG emissions have risen, increasing by approximately 33.5%. In 2019, transportation accounted for 25% of the European Union's CO_2 emissions (European Parliament, 2019). Globally, the transport sector produces roughly 30% of all GHG emissions, 72% of which originate from road transport. Because tourism relies heavily on road-based mobility, tourism-related transportation alone accounts for an estimated 75% of transport emissions, making the tourism sector responsible for approximately 8% of global GHG emissions (Babri et al., 2022). The predominance of internal combustion engines exacerbates these environmental impacts. Such engines emit a spectrum of harmful pollutants—including fine particulate matter (PM), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen oxides (NO_x), and, most critically, carbon dioxide (CO_2)—that degrade air quality and pose risks to public and environmental health (Sagheb et al., 2023). The type of vehicle in use significantly influences the environmental footprint of road traffic; diesel, gasoline,

hybrid, and electric vehicles each contribute differently to emissions profiles, and meaningful reductions depend on improving vehicular efficiency and transitioning to cleaner energy sources (European Parliament, 2019).

These emissions have direct and measurable consequences for World Heritage materials and structures. The vulnerability of heritage stone and building fabric to vehicular pollutants is closely tied to their physical, chemical, and mineralogical composition. Common forms of damage include mass loss, increased porosity, discoloration, and embrittlement (Babri et al., 2022; Sagheb et al., 2023). Airborne pollutants accelerate surface erosion, obscure historic detail through darkening, alter patina formation, and increase moisture penetration, all of which compromise the authenticity and integrity of heritage sites (Babri et al., 2022). Sulfates, nitrates, and organic carbon compounds, by-products of combustion, are particularly damaging and have been linked to significant aesthetic and structural degradation (Sagheb et al., 2023). A seminal study by Rodriguez-Navarro and Sebastián (1996) demonstrated the substantial role of particulate matter in accelerating stone deterioration through sulfation processes, especially under humid atmospheric conditions.

Given these escalating risks, contemporary heritage conservation practice emphasizes the integration of climate-responsive strategies into site management. A key approach involves fostering the use of new technologies suited to the rehabilitation of historic buildings, particularly those that reduce GHG emissions and enhance energy efficiency. Effective conservation requires a comprehensive understanding of a site's cultural significance, systematic risk assessment, and the ability to manage change now increasingly framed in terms of carbon accountability. Life Cycle Assessment tools are therefore essential for maximizing the retention of existing historic fabric while minimizing reliance on newly produced materials whose manufacture contributes additional carbon emissions. Central to mitigating climate threats is the broader process of decarbonization, defined as the transition of systems, national, institutional, or local, toward a zero-fossil-carbon existence by reducing emissions from electricity, industry, and transport. At the scale of World Heritage properties, this can be advanced through the widespread adoption of improved technologies and management practices aimed at reducing emissions across the heritage conservation network.

These findings underscore the urgent need for sustainable tourism practices that meaningfully address transportation-related emissions. As defined by Sagheb et al. (2023), sustainable tourism requires meeting the needs of visitors, host communities, and the environment while fully considering its long-term economic, social, and ecological implications (Babri et al., 2022). Without substantial and coordinated mitigation efforts, climate change will continue to accelerate the degradation of World Heritage sites, placing irreplaceable cultural and natural assets at increasing risk.

The methodology for the Göreme EV and pedestrianization model is built upon the Sustainable Mobility in Heritage Landscapes (SMHL) framework (Cisani et al., 2025). This qualitative, case-study-based approach systematically integrates three core components to align local municipal interventions with global climate targets:

The first phase involves spatial analysis of conflict zones by a detailed spatial mapping of the Göreme UNESCO World Heritage site to identify conflict zones where fossil-fuel traffic intersects with pedestrian movement and fragile geological formations. The analysis accounts for Göreme's unique urban layout and morphological constraints, characterized by extremely narrow, often single-lane streets situated between residences and sensitive "fairy chimney" formations. To have the vulnerability assessment, the analyses evaluate how traffic-related vibrations and localized pollutant concentrations (CO_2, NO_x, SO_x) directly threaten the malleable volcanic tuff rock, which is prone to erosion, mass loss, and structural micro-fracturing. Spatial analysis determines the optimal placement of peripheral DC fast-charging stations and integrated hotel charging points to minimize the visual and physical impact on the historic landscape.

The second phase of the methodology multi-layered EV System to understand the inadequacy of conventional transport and replaces it with a tiered Electric Vehicle (EV) system tailored to the site's constraints. The assessment specifically targets high-emission sectors, such as the hot air ballooning industry, which operates 500–600 combustion-engine vehicles daily, creating dust and noise. To complete the vehicle categorization analyses, the model specifies appropriate vehicle types based on street geometry. These include small electric carts for constrained urban passages, electric minibuses for public transport, and compact service vehicles. The developed Data-Driven Management Model incorporates real-time mobility patterns collected via GPS and IoT sensors to optimize tourist flows and charging infrastructure needs.

The third phase of the methodology aims the integration of sustainability frameworks. The project goals are systematically evaluated against international environmental standards to ensure the preservation of "Outstanding Universal Value". The framework aligns Göreme's local strategy with the European Green Deal, the Paris Agreement (targeting a 41% reduction in national emissions by 2030), and United Nations SDGs 3 (Good Health) and 11 (Sustainable Cities). To manage the decarbonization and carbon accountability, the methodology utilizes Life Cycle Assessment tools to prioritize the retention of historic fabric while transitioning the transport system toward a "zero-fossil-carbon existence". Sustainability is extended to social equity by applying Universal Design Standards, ensuring that new EV infrastructure and pedestrianized areas (including urban furniture and botanical landscapes) are accessible to all, including wheelchair users.

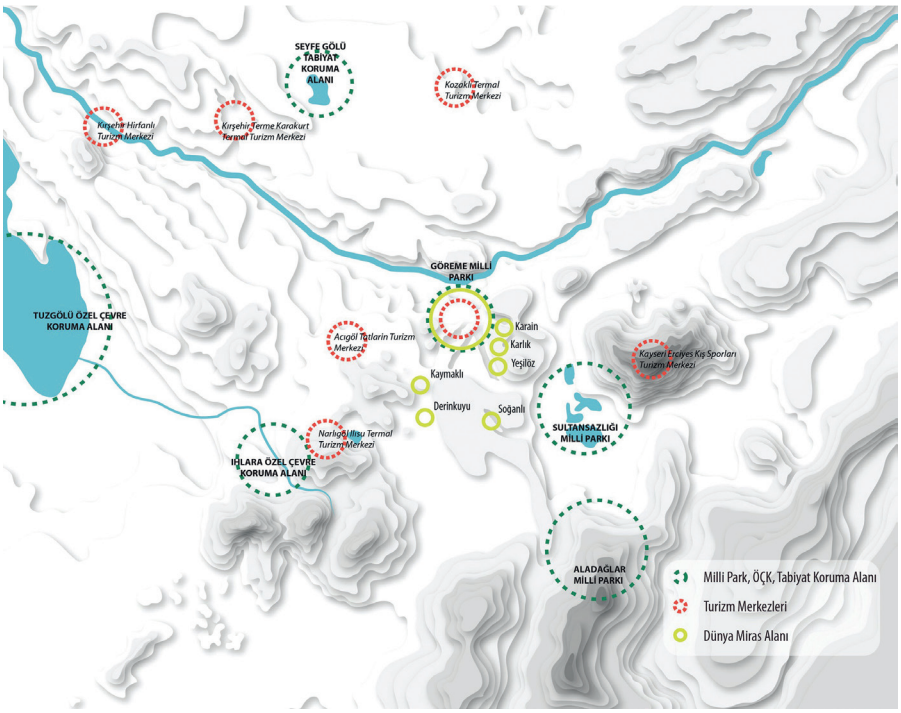
By combining these three elements, the methodology transforms Göreme into a pilot model for heritage sites, demonstrating how climate-responsive urbanism can protect vulnerable historical assets while supporting modern tourism.

2. **The Unique Vulnerability of Göreme and Transportation Threats**

World Heritage is a designation applied to cultural and natural sites of exceptional significance to humanity, recognized for their outstanding universal value and protected for the benefit of present and future generations. Göreme, situated among the iconic "fairy chimney" formations of Cappadocia in the Nevşehir Province of Central Anatolia, Turkiye, exemplifies

this global heritage mandate. The area formally listed as Göreme National Park and the Rock Sites of Cappadocia was inscribed on the UNESCO World Heritage List in 1985 in recognition of its unique geological formations, remarkable cultural landscape, and millennia-long record of human settlement (UNESCO, 2022). The distinctive volcanic terrain of the region, shaped by the selective erosion of soft tuff rock, produced the spectacular conical pillars and sculpted valleys that define the Cappadocian landscape. This malleable geological material (Fig. 1) enabled the creation of extensive rock-cut dwellings, troglodyte villages, monastic complexes, and underground cities, with evidence of continuous habitation dating back to at least the 4th century (IUCN World Heritage, 2020). These rock-hewn sanctuaries illustrate an exceptional architectural and cultural tradition that has evolved in direct interaction with the natural environment.

Figure 1
Important Natural Areas Located in and around the Cappadocia Region (ÇEKÜL, Çevre Kültür Değerlerini Koruma ve Tanıtma Vakfı, 2012)

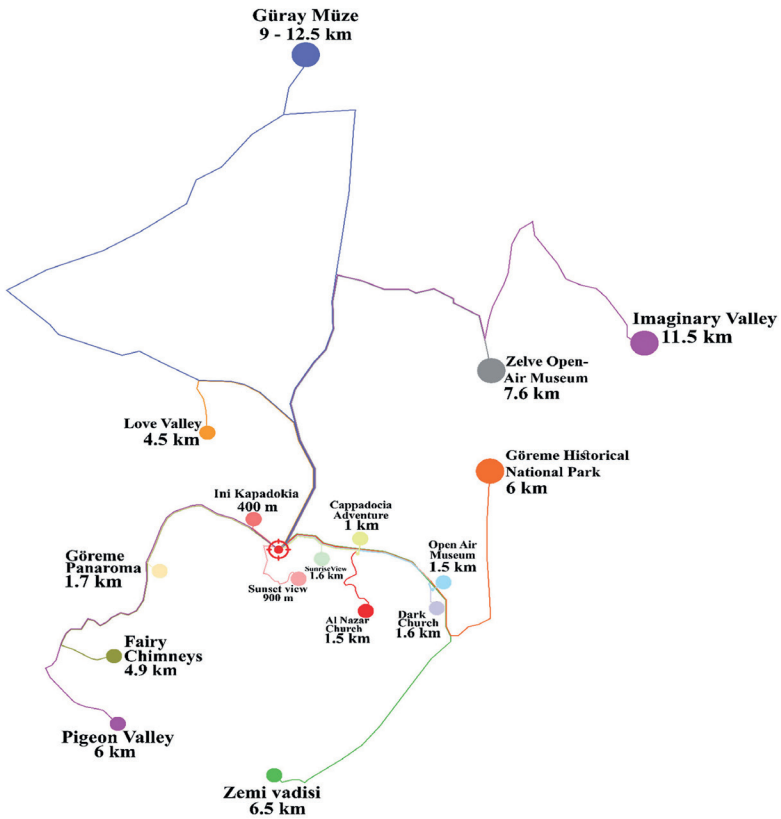


Göreme's strategic location within the Cappadocia region enhances its cultural and touristic significance. The town lies in close proximity to major heritage attractions, including Love Valley, Göreme Open Air Museum, the Dark Church, and the wider Historical National Park, all located within approximately 2 to 12 kilometers of the town center (Fig. 2; Eltan et al., 2023). This concentration of high-value heritage assets makes Göreme one of the most visited destinations in the region, attracting large numbers of domestic and international tourists each year. As a site of global cultural importance, Göreme requires rigorous conservation and sustainable management to ensure that its unique landscape and historical fabric are pre-

served for future generations. Increasing visitor numbers, environmental pressures, and the cumulative impacts of contemporary mobility systems pose substantial risks to its long-term integrity, underscoring the need for proactive protection and adaptive planning.

This unique historical and natural ecosystem faces pronounced vulnerability, with gas emissions constituting one of the most critical threats to its monuments and geological formations. Anthropogenic activities, particularly the combustion of fossil fuels, emit carbon dioxide (CO_2), nitrogen oxides (NO_x), and sulfur oxides (SO_x) (IUCN World Heritage, 2020). When these compounds interact with atmospheric moisture, they form acidic solutions that compromise the structural integrity of stone materials. Among these pollutants, sulfur dioxide (SO_2) is widely recognized as the most damaging to stone conservation, contributing to mass loss, increased porosity, discoloration, and embrittlement. Elevated air pollution levels further accelerate surface erosion, obscure fine historical details, and facilitate greater water penetration into heritage structures, amplifying long-term deterioration.

Figure 2
Tourist attraction points and distances in and around Göreme (Adapted from Aksoyak & Abou Shahin, 2023, p. 51).



The tourism sector significantly intensifies these pressures. Globally, transportation is the only major sector in which GHG emissions have risen markedly over the past three decades, by approximately 33.5% (European Parliament, 2019). Tourism accounts for an estimated

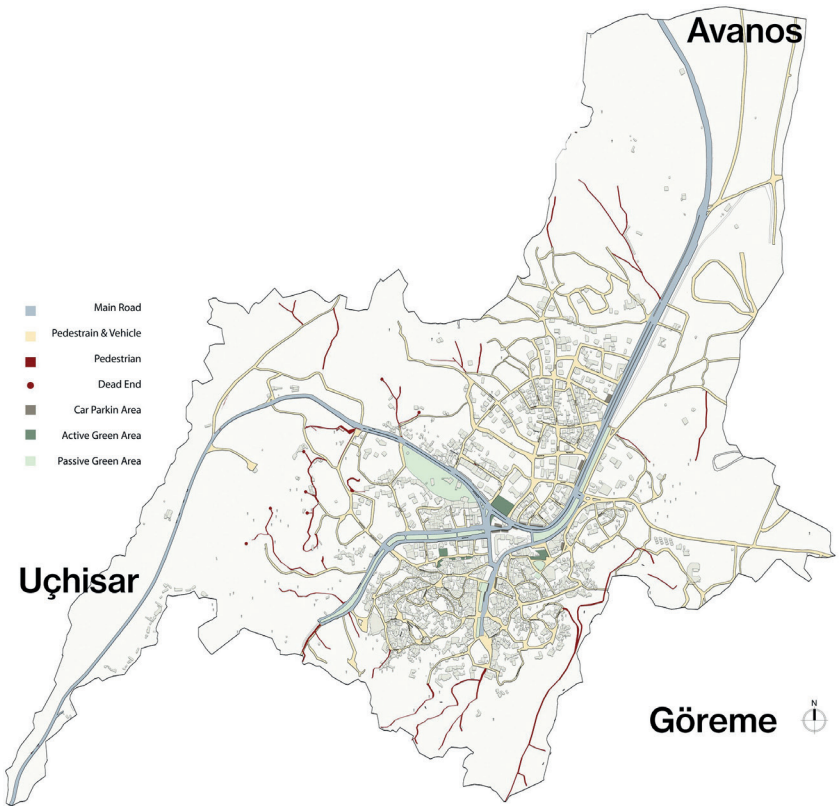
8% of global GHG emissions, with tourism-related transportation responsible for 75% of that share. Road transportation alone contributes 72% of transport-sector emissions, making traffic-related pollution particularly problematic in heritage settings (Babri et al., 2022). In Göreme, congestion resulting from narrow, often single-lane streets prolongs vehicle idling and increases localized pollutant concentrations, thereby deepening the environmental strain on both the town and its surrounding rock formations.

An especially impactful source of degradation is the hot air ballooning industry. Approximately 27 companies operate between 500 and 600 combustion-engine vehicles daily to transport balloons, equipment, and passengers into the valleys. This activity produces substantial greenhouse gas emissions and creates extensive dust clouds that drift across the city, a process exacerbated by the region's volcanic terrain. These dust emissions pose potential respiratory risks to residents and contribute to soil degradation, erosion, and habitat disturbance, further threatening Göreme's fragile natural and cultural landscape. Furthermore, persistent traffic vibrations and noise generated by combustion engines present an additional hazard to the region's natural and historic heritage. These mechanical stresses can accelerate micro-fracturing in the delicate tuff formations, while the overall disorganized mobility system negatively affects the broader morphological stability of the area.

As a signatory to the Paris Agreement, Turkiye has committed to reducing national emissions by 41% by 2030 (TRT World, 2022). In 2021, Türkiye's total GHG emissions amounted to 564.4 million tonnes of CO_2 equivalent. In 2020, the transportation sector contributed 80,680 kilotonnes of CO_2 equivalent to the total greenhouse gas emissions, whereas in 2021, this sector accounted for 91,200 kilotonnes of CO_2 equivalent. It is further noteworthy that in 1990, transportation-related emissions constituted 12.8% of the total greenhouse gas emissions, whereas this proportion increased to 16.2% in 2021 (Melikoglu, 2025). Due to the rate of increase in these figures, the implementation of an Electric Vehicle (EV) mobility program in Göreme carries strategic importance.

Göreme contains a remarkably dense concentration of historical sites within a compact geographical area, with most major attractions located within a 12-kilometer radius. The town's street network is characterized by extremely narrow roads, often only a single vehicle in width, situated between hotels, residences, and other built structures. A single primary road connects Göreme to Avanos in the north and Nevşehir in the west (Fig. 3). Research indicates that the highest levels of vehicle emissions occur in conditions of slow traffic and congestion, a phenomenon readily observable in Göreme due to the mismatch between its narrow street layout and the high volume of vehicles and tourists. The steady increase in visitor numbers has intensified tourism-related activities, placing additional strain on local resources and the broader ecosystem, while also contributing to disturbance and habitat pressure on the region's wildlife.

Figure 3
The Road Map of Göreme Town (Aksoyak et al., 2022)



Considering these compounded environmental and infrastructural pressures, the adoption of a sustainable mobility strategy emerges as an essential requirement for the long-term preservation of Göreme's cultural and natural assets. Reducing traffic congestion, minimizing emissions, and mitigating the physical impacts of vehicle movement are critical steps toward ensuring the site's continued integrity. A carefully designed and contextually appropriate Electric Vehicle (EV) mobility program offers a viable path forward, capable of addressing these challenges while enhancing the overall visitor experience. Such a program would not only mitigate ongoing damage to this sensitive World Heritage landscape but also serve as a scalable pilot model for sustainable mobility at other heritage sites across Turkiye, demonstrating how targeted interventions can protect vulnerable environments while supporting responsible tourism.

3. **Implementing Electric Vehicle Systems for Sustainable Mobility**

Switching to low-impact transportation systems, particularly electric mobility, represents one of the most immediate and effective pathways for reducing emissions from combustion engines and promoting sustainable development in heritage contexts. Electric vehicles (EVs) generate near-zero tailpipe emissions and operate on electrical energy rather than fossil fuels,

resulting in substantially improved energy efficiency and significantly lower greenhouse gas outputs. Even when the electricity generation mix is taken into account, EVs consistently outperform internal combustion vehicles in terms of overall emissions reduction and environmental performance, while also contributing to quieter and less intrusive mobility conditions. Studies indicate that increasing the share of Battery Electric Vehicles (BEVs) to 10% can achieve an estimated 7% reduction in total carbon emissions.

In Göreme, the proposed transition toward electric mobility is anchored in the Göreme Kent Meydanı ve Yakın Çevresi Kentsel Tasarım Projesi (Aksoyak et al., 2022), which outlines a pedestrian-focused urban access model integrated with a comprehensive EV-based transportation system. This approach aims to reduce the ecological footprint of mobility, alleviate congestion, and align transportation practices with the conservation requirements of this sensitive World Heritage landscape.

3.1. **EV Implementation Challenges and Prerequisites**

In the context of sustainable urban design and heritage management, accessibility and inclusivity function as deeply interconnected and mutually reinforcing principles. Accessibility, particularly in a city like Göreme where all elements of the historical urban landscape are present, necessitates a comfortable and healthy transportation infrastructure as an expectation for high-quality tourism. The concrete implementation of physical infrastructure and technology-focused systems, such as appropriate charging stations, suitable mounting heights, and sufficient maneuvering space at charging stations, is crucial for accessibility. Inclusivity, on the other hand, represents a broader socio-ethical goal: Ensuring that these developments serve all users of the area equally, especially more vulnerable groups (such as children, the elderly, and people with disabilities) or those who have not received adequate services. Adhering to Universal Design Standards in all urban interventions will ensure that fundamental technological integration is transformed into an inclusive framework, preventing modern pedestrianization and green transportation systems from creating new spatial barriers, but rather remaining physically, socially, and economically accessible to all.

A successful transition to an electric transportation system, especially in a sensitive historical setting like Göreme, requires addressing a variety of interrelated challenges (Kelly et al., 2019), the implementation challenges and prerequisites of which are described below:

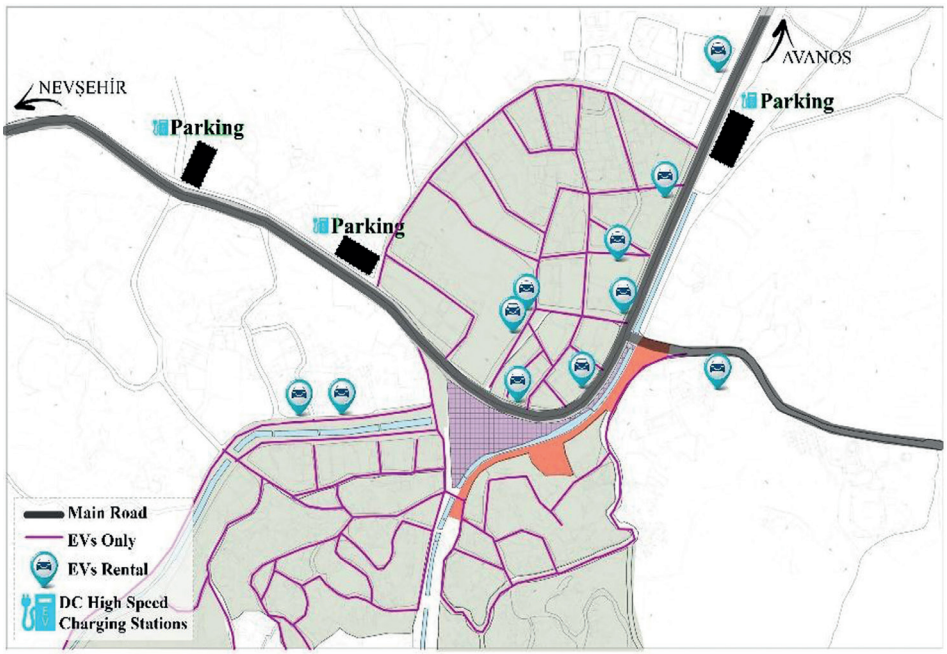
Technical Knowledge and Capacity: As EV technologies continue to evolve, gaps in technical knowledge remain a significant barrier. Expert electrical engineering support is essential from the outset to ensure the reliable operation of the system, proper installation of charging infrastructure, and ongoing maintenance.

Infrastructure Siting and Electrical Capacity: Charging stations must be strategically located to maximize accessibility to existing electrical networks, thereby minimizing installation costs. At the same time, electrical capacity must be sufficient to accommodate future expansion as demand increases. Where feasible, integrating renewable energy sources, particularly solar power, can further enhance sustainability and reduce long-term operational costs.

Environmental and Climatic Constraints: Weather conditions have measurable effects on EV performance. Battery range may decline by up to 50% in cold temperatures and by approximately 10% in extreme heat, with optimal performance occurring between 15°C and 24°C. Charging infrastructure must therefore be designed to withstand climatic stresses, including intense sun exposure, heavy rainfall, and snowfall (WXY Architecture + Urban Design & Barretto Bay Strategies, 2012).

Physical and Spatial Limitations: Göreme's narrow street network imposes constraints that necessitate careful mobility planning. Certain routes may need to be restricted to small EVs only, ensuring safe circulation and reducing the risk of congestion or structural impacts on heritage areas (Fig. 4).

Figure 4
Map of suggested rental locations for the EV system in Göreme town center (Prepared by the authors)



Data-Driven Management: Effective implementation depends on robust data collection and dedicated management personnel at both project and site levels. Required data include visitor numbers, current and projected vehicle and charging needs, and real-time mobility patterns obtained through GPS tracking. Such data support informed decision-making, system optimization, and long-term planning.

Aesthetic and Regulatory Considerations: In protected heritage environments, regulatory frameworks prioritize the preservation of visual and architectural integrity, often resulting in resistance to the introduction of modern infrastructure such as charging stations, visible cabling, or bulky equipment. To ensure compatibility with Göreme's historical character, EV infrastructure must therefore be designed with a high level of contextual sensitivity. This includes careful consideration of the form, scale, and placement of charging units, as well as the use of materials and color schemes that harmonize with the surrounding built and natural

landscape. Innovative strategies such as concealed or underground charging systems, visually unobtrusive housing, and design solutions that echo local architectural patterns are essential to maintaining the aesthetic coherence of the area while enabling technological upgrades.

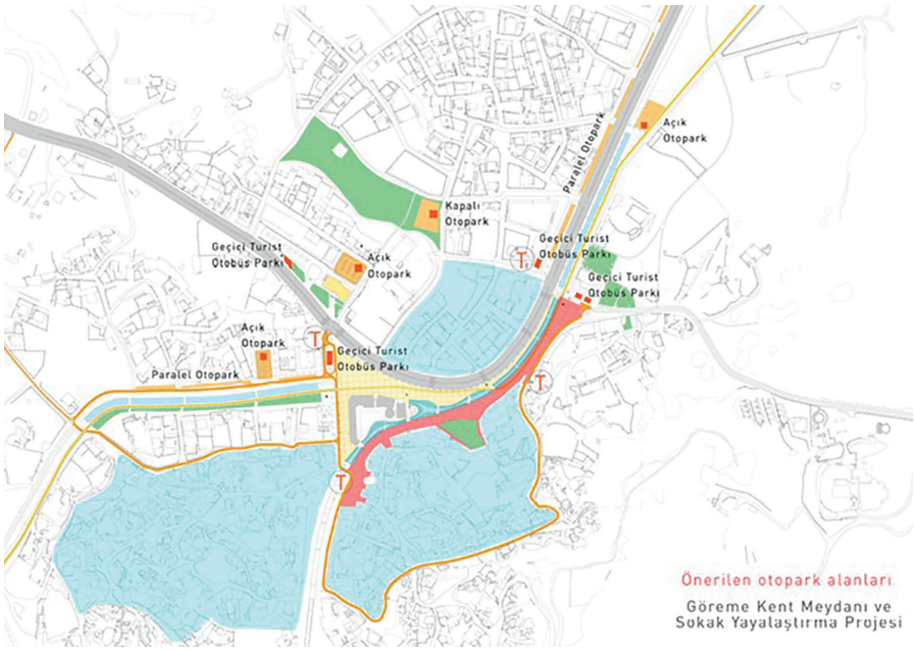
The successful transition to an electric mobility framework in Göreme necessitates a holistic alignment between modern technological requirements and the rigid conservation standards of a UNESCO World Heritage site. Addressing the identified prerequisites ensures that the system remains resilient under fluctuating seasonal demands and the inherent physical constraints of the historical morphology. Ultimately, the viability of this transition hinges on the "invisible" integration of infrastructure; by prioritizing aesthetic compatibility and contextual sensitivity, the proposed model ensures that necessary technological upgrades do not compromise the visual narrative or structural integrity of the landscape.

3.2. **Strategic Infrastructure and Operational Requirements**

For the Göreme mobility plan to function effectively, a series of operational and infrastructural requirements must be fulfilled. Appropriate vehicle types must be selected, and targeted infrastructure measures must be implemented to ensure significant reductions in transportation-related emissions while maintaining full compatibility with the site's World Heritage context. These requirements include the following:

Vehicle Restrictions: Certain neighborhoods and road segments should be designated for exclusive use by electric vehicles. Given Göreme's narrow street geometry and sensitive historical setting, the most appropriate EV typologies include compact electric cars, small-scale utility carts, and electric minibuses capable of navigating constrained urban passages without compromising heritage structures.

Figure 5
Areas in Göreme city center proposed to be closed to fossil fuel vehicle traffic in order to implement EV systems (Aksoyak et al., 2022).



Mandatory Fleet Conversion: Tourism operators, particularly hot air balloon companies, which generate the highest daily traffic volumes, should be required to convert all transport vehicles to electric propulsion. This measure is essential, as these operations currently constitute the most significant source of localized emissions within the region (Fig. 5).

Charging Station Deployment: DC Fast Chargers should be positioned at the periphery of EV-designated zones to support rapid turnaround for public and commercial fleets. These units can deliver up to 80% battery capacity within approximately 20 minutes, enabling efficient operational cycling (Sullivan, 2022). AC Level 1 Chargers should be installed at hotels, leveraging the typical 8–10 hours visitors spend at their accommodations to facilitate overnight charging. These chargers provide an estimated 3–8 kilometers of additional range per hour, adequately supporting the low-speed, short-distance mobility patterns characteristic of Göreme.

Aesthetic Integration and Accessible Design: To preserve the visual integrity of the World Heritage site, charging stations should be designed in accordance with Göreme's established architectural language and color palette. The form, placement, and materials of the infrastructure should minimize visual impact and harmonize with the surrounding environment. Furthermore, in accordance with universal accessible design principles, charging units must be easily accessible to all individuals, including wheelchair users (Department for Transport & Office for Zero Emission Vehicles, 2022). To meet these requirements, adjustable and easy-to-use cables and sockets, appropriate mounting heights, sufficient maneuvering space, and clear, well-lit information displays are necessary (WXY Architecture + Urban Design & Barretto Bay Strategies, 2012).

4. **Integrated Urban Design And Pedestrianization**

Alongside the implementation of the EV transportation system in Göreme, complementary urban design proposals have been developed to establish a pedestrian-oriented access model within the town square and the surrounding historic neighborhoods (Aksoyak et al., 2022). These interventions aim to reorganize and rationalize mobility patterns that have become increasingly disordered due to rising visitor pressure, narrow street conditions, and uncontrolled vehicular movement. By prioritizing pedestrian circulation and reducing traffic intrusion, the proposed design framework seeks to alleviate the strain currently placed on Göreme's spatial structure and to protect the morphological integrity of its sensitive World Heritage landscape.

4.1. **Street Pedestrianization and Urban Furniture**

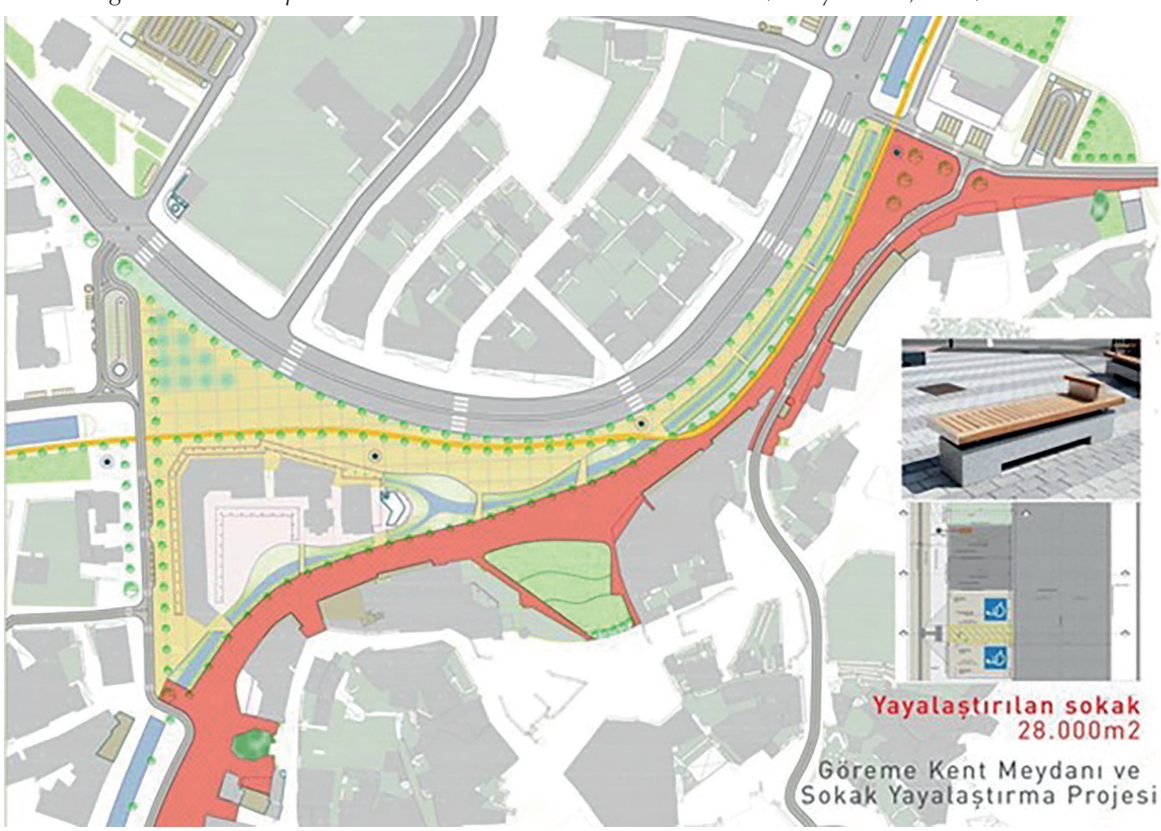
A central component of this urban design strategy is the pedestrianization of selected streets, aimed at reducing vehicular movement and mitigating its physical and environmental impacts on Göreme's historic fabric. By reallocating street space to pedestrians and enhancing the quality of the public realm, the plan seeks to create a more coherent, accessible, and heritage-sensitive urban environment. Integral to this approach is the careful selection and design

of urban furniture elements, such as benches and waste bins that meet functional requirements while ensuring aesthetic compatibility with the surrounding World Heritage landscape (Aksoyak et al., 2022). The design principles guiding these elements emphasize durability, ergonomic comfort, environmental sustainability, and visual harmony (Fig. 6).

Benches: The preferred material for benches is (wood over concrete), chosen for its structural longevity, resistance to weathering, and compatibility with the natural tones of Göreme's tuff stone environment. The benches are conceived as modular units available in both saksılı (potted) and saksısız (unpotted) configurations. The potted versions allow for integrated greenery and can function as shading devices or subtle spatial barriers, while the unpotted versions offer flexible seating arrangements suitable for plazas, pathways, and rest areas along pedestrian routes.

Garbage Bins: Waste bins are designed to complement the bench system through coordinated material selection and form. Options include (wood over metal) or wood-over-concrete compositions, each chosen to ensure durability, ease of maintenance, and aesthetic coherence. The consistent use of natural materials helps the bins blend into the historic streetscape, reducing visual intrusion while supporting improved waste management within pedestrianized areas.

Figure 6
Street design details for the pedestrianized streets in Göreme town center (Aksoyak et al., 2022)



4.2. **Botanical Landscape Design**

The landscape design strategy is grounded in the region's climatic conditions and native vegetation, with plant species selected for both their functional performance and aesthetic compatibility with Göreme's cultural landscape (Aksoyak et al., 2022). In particular, species with noise-cancelling and sound-absorbing properties were prioritized in areas where pedestrian activity is concentrated, such as seating and waiting zones.

Classification of Green Areas: The planting scheme is organized into passive and active green spaces. Passive areas primarily consist of roadside plantings intended to enhance visual continuity and environmental quality. Active green areas serve more defined purposes, such as directing movement, forming natural barriers, providing shade, or contributing ornamental and thematic value to key public spaces.

Native and Well-Balanced Species Selection: The proposed palette emphasizes tree and shrub species native to Central Anatolia, ensuring ecological compatibility and long-term resilience. A balanced mix of deciduous and evergreen species supports year-round visual interest and environmental performance.

Recommended Tree Species: Suggested tree-form plantings include Gümüşi Ihlamur (Tilia tomentosa), Toros Sediri (Cedrus libani), Süs Kirazı (Prunus serrulata 'Kanzan'), and Kırmızı Çınar Yapraklı Akçaağaç (Acer platanoides), each chosen for their adaptability and contribution to the site's aesthetic and microclimatic quality.

Recommended Shrub and Groundcover Species: Suitable shrub and groundcover selections include Pampas Otu (Cortaderia selloana 'Pumila'), Lavantin (Santolina chamaecyparissus), Sabin Ardıcı (Juniperus sabina 'Tamariscifolia'), Kareks (Carex oshimensis), and Kaya Sarmaşığı (Hedera helix), offering textural variety, durability, and ecological value.

Thematic and Ecological Planting Approaches: Thematic Garden areas incorporate permaculture principles and feature color- and fragrance-producing species intended to attract pollinators and other beneficial wildlife, thereby supporting a sustainable and biodiverse ecological system within the pedestrianized urban fabric.

5. **Smart Cities, Sustainable Tourism, and Research Gaps**

The initiative undertaken in Göreme aligns with global trends that integrate electric vehicles into urban planning frameworks aimed at achieving sustainable and resilient cities. Such a transition is recognized as essential for lowering carbon footprints, redefining mobility behavior, and improving urban air quality. The effectiveness of EV deployment, however, depends heavily on infrastructure readiness, the strategic placement of charging stations, and the extent to which these systems are integrated with renewable energy sources.

Within the context of tourism, the integration of EVs supports sustainability objectives by reducing the environmental footprint of visitor transportation while enhancing the overall tourist experience. This evolution contributes to destination branding that emphasizes inno-

vation, environmental stewardship, and responsible mobility. Achieving such integration depends on advanced technological infrastructures, including Smart Grids for efficient energy distribution and the Internet of Things (IoT) for real-time data collection, fleet management, traffic optimization, and dynamic routing to available charging stations.

5.1. **Fostering Inclusive Mobility and Addressing Research Gaps**

Inclusive electric mobility is essential for achieving social equity in sustainable transportation. Ensuring that EV systems deliver convenience, affordability, and accessibility to all populations requires deliberate planning and the equitable distribution of benefits across urban areas. Key strategies include:

Strategic Placement of Public Charging Infrastructure: Prioritizing underserved neighborhoods or areas near transit hubs, guided by equity-based metrics such as income levels or multi-unit dwelling density.

Universal Design Standards: Ensuring that charging stations meet accessibility requirements, including adequate clearances, appropriate port heights, and manageable cable lengths (Department for Transport & Office for Zero Emission Vehicles, 2022).

Despite progress in mobility research, notable gaps remain. Studies show limited engagement with SDG 10 (Reduced Inequalities), indicating a need for deeper exploration of how sustainable mobility systems can better serve vulnerable populations (Guzman & Oviedo, 2021; Lucas et al., 2016). Moreover, while existing research clusters emphasize infrastructure, adoption behavior, and policy frameworks, future studies should expand into emerging domains such as AI-driven mobility management, predictive urban analytics, and decentralized energy systems, all of which hold potential to transform the integration of EVs within smart and sustainable urban environments.

6. **Conclusion**

In historic city centers with outstanding universal value, as defined by UNESCO, reducing the use of conventional transportation methods and thereby mitigating climate change and carbon emissions from fossil fuel vehicles stands out as a crucial measure for the preservation of cultural and natural heritage. The development of electric vehicle technologies can be proposed as a solution for historic city centers as an alternative to fossil fuel vehicles. For the city of Göreme, which possesses distinctive urban morphological features as part of its outstanding universal value, a traffic management system based on electric vehicles seems feasible. However, considering the fragile nature of historical heritage, it is crucial that urban design and planning studies in historic city centers with outstanding universal value uphold this value and adopt a design and planning approach within the framework of international conservation approaches to mitigate the impact of climate change on cultural heritage.

The protection of historic buildings is fundamental to safeguarding cultural value and community identity for future generations. In Göreme, the continued reliance on fossil fuel–based transportation will inevitably intensify traffic-related emissions, accelerat-

ing the deterioration of the region's natural landscape and irreplaceable cultural assets. Implementing sustainable mobility solutions, most notably the transition to electric transportation systems supported by expanded green infrastructure, is therefore essential to mitigate these impacts and ensure the long-term preservation of this World Heritage site. The proposed Göreme EV program represents a critical pilot initiative for heritage sites across Turkiye. Its success relies on mandatory conversion of high-emission tourist transport fleets, the strategic deployment of charging infrastructure such as DC fast chargers at zone peripheries and AC Level 1 units at hotels and the sustained involvement of technical experts and dedicated management teams. As such, the program provides a model for integrating sustainable mobility into sensitive heritage environments.

Despite well-established evidence linking air pollution to material degradation in historical sites, current literature offers limited analysis of the direct effects of traffic-induced emissions in highly vulnerable contexts such as Cappadocia. Future research must address this gap through comprehensive data collection on tourist numbers, mobility patterns, and route-specific emission levels, alongside detailed assessments of the chemical and physical impacts of pollutants on Göreme's unique geological formations. Such work is crucial for establishing evidence-based conservation and mobility strategies. Developing and implementing new, sustainable systems for Göreme must begin without delay to ensure that tourism can continue without compromising the integrity of the environment or the historical setting. With informed planning and coordinated action, heritage cities like Göreme can serve as exemplary models of how cultural preservation and environmental stewardship can be mutually reinforcing pillars of sustainable development.

The proposed Göreme EV program serves as a critical pilot initiative for heritage sites across Turkiye, demonstrating that sustainable mobility can coexist with rigorous heritage preservation. The program's success hinges on a dual approach: The mandatory conversion of high-emission tourist fleets and a commitment to data-driven management. While the evidence linking air pollution to material degradation is well-established, there remains a significant gap in site-specific longitudinal data regarding Cappadocia's unique geological formations. Future research must prioritize empirical assessments of mobility patterns and route-specific emissions to refine these conservation strategies. Ultimately, the immediate adoption of these sustainable systems is essential to ensure that tourism remains a force for development rather than a catalyst for decay, positioning Göreme as an exemplary model where cultural stewardship and environmental innovation serve as mutually reinforcing pillars of sustainable development.

To bridge the gap between theoretical frameworks and practical application, the following policy recommendations and research directions are proposed to ensure the long-term viability of the Göreme EV transition. Successful implementation requires mandatory fleet conversion through a phased regulatory timeline for high-emission commercial transport, alongside the establishment of "Green Zones" where only pedestrians and small-scale EVs are permitted to reduce physical vibrations and soot deposition. To maintain the site's integ-

rity, aesthetic infrastructure standards must be developed so that charging units and cabling harmonize with the local tuff stone, supported by public-private partnerships that incentivize hotel-based AC charging and peripheral municipal DC hubs. Simultaneously, future research must prioritize empirical material analysis of pollutant impacts on Cappadocia's unique geological formations and utilize mobility pattern analytics via GPS and IoT sensors to optimize transport flows. Assessing energy grid resilience, particularly through solar-powered microgrids, and conducting socio-economic impact assessments will further ensure that the transition remains a carbon-neutral, socially inclusive, and economically sustainable model for global heritage conservation. Beyond physical intervention, in heritage sites like Göreme, where natural heritage and cultural heritage are inextricably linked and defined as having outstanding universal value, transforming EV-based transportation solutions from a strategic framework to an operational reality requires the distribution of responsibilities across a multi-layered management structure. Primarily, the relevant actors and their boundaries of authority must be defined, and political will must be demonstrated in favor of conservation-oriented transportation infrastructure strategies, considering the outstanding universal value and evaluating sustainable climate approaches as a technology-focused local solution. Stakeholder planning based on responsibilities and authorities will ensure a balance between conservation standards, technological requirements, and local economic interests throughout the implementation phases. Due to Göreme's status as an archaeological and natural site, the Ministry of Culture and Tourism is the primary authority in the area. Furthermore, because of its World Heritage Site status, UNESCO also has a say in all infrastructure projects. Therefore, the UNESCO Turkish National Commission, as UNESCO's representative in Turkiye, can be defined as a stakeholder with a steering and oversight role. In addition to being on the UNESCO World Heritage List, Göreme is located within the "Cappadocia Area," whose boundaries are defined by Law No. 7174. Therefore, the highest authority for all planning, design, protection, and supervision activities in the region is the Cappadocia Area Directorate. The implementing units of the Area Directorate include the Göreme Municipality (infrastructure development and operational enforcement) and TEİAŞ/EDAŞ (national grid operator, infrastructure development). The Nevşehir Governorship, which is administratively authorized and responsible, is also an important actor. Abdullah Gül University and Cappadocia University, as regional universities, are in a position to play an important role as academic partners (commissioning and long-term monitoring) in order to carry out planning and design studies during the transition process to EV-based transportation solutions based on conservation strategies. Although the proposed infrastructure development is geared towards universal conservation approaches and is developed within the context of a sustainable conservation strategy against climate change, the primary and practical beneficiaries of the proposal will be commercial tourism operators. Working with the local hospitality sector (hotels and accommodations) will be crucial for the successful adoption of the phased transition and innovative system across Göreme. Furthermore, the operators of balloon tourism, which causes significant traffic congestion in the area, particularly in the early morning hours, should also be included in the stakeholder planning. To reduce local dust and gas emissions,

local businesses can be identified as primary actors in financing and implementing the conversion of 500-600 internal combustion engine support vehicles to electric propulsion systems, according to an implementation schedule managed by the municipality.

To systematically evaluate the efficacy of the EV transition and pedestrianization model within the Göreme UNESCO World Heritage site, the framework establishes a multi-layered monitoring matrix divided into three specialized, data-driven vectors that feed directly into the management model. First, environmental and emissions metrics quantify air quality improvement by utilizing localized IoT sensors to continuously track ambient fine particulate matter concentrations ($PM_{2.5}$ and PM_{10} in $\mu g/m^3$), gaseous pollutant levels (CO_2, NO_x, SO_x in ppm), and acoustic noise reductions (dBA) within high-congestion zones and valley routes. Second, tourist flows and mobility patterns are managed by tracking spatial peak load dynamics via GPS and mobility sensors, assessing the daily utilization and turnaround rates of peripheral DC fast chargers and hotel-integrated AC Level 1 units, and measuring pedestrian dispersion velocity within the reorganized 28,000m^2 pedestrianized zone. Third, material and structural degradation indicators provide empirical verification of heritage conservation outcomes by employing continuous triaxial accelerometers to measure micro-vibration amplitudes (mm/s) on sensitive fairy chimney formations, alongside conducting periodic, non-destructive physical analysis to monitor stone surface porosity, mass loss rates, and fracture expansion linked to vehicular pollution and structural mechanical stress.

Although the proposed development emerges as a significant measure for the preservation of cultural heritage and against climate change, the systemic transition to conservation-oriented technological urban transportation applications presents interrelated technical, regulatory, and social challenges. Technically, grid capacity constraints during peak tourism seasons pose a significant problem. The simultaneous operation of high-capacity DC fast chargers risks exceeding the capacity of local energy distribution grids and necessitates the integration of renewable energy sources such as solar microgrids. Furthermore, infrastructure placement will require adherence to planning and design decisions, overseen by conservation experts and national/local authorities, for physical interventions such as underground cabling and visually camouflaged charging terminals to avoid aesthetic conflict with the historical landscape. Climate variables pose additional technical risks; it should be considered that extreme temperature fluctuations specific to Central Anatolia could reduce battery range by up to 50% during winter months, requiring regional technical solutions. During the transition process, local government regulations, including mandatory fleet requirements for hotels and balloon companies, may lead to economic and operational problems. To overcome these practical challenges, the authority and responsibilities of the Cappadocia Area Directorate must be clearly defined and announced. Furthermore, the joint implementation and monitoring of micro-scale developments by the Area Directorate and the Göreme Municipality, based on macro-scale development plan decisions, will ensure an equitable implementation on the ground. Socially, visitor management faces friction over mode of transport changes due to tourists resisting private vehicle restrictions and local businesses; this necessitates the development of highly accessible, universally designed transfer hubs in surrounding areas to eliminate bottlenecks and guarantee equal mobility access.

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TOWARDS ACCESSIBLE CULTURAL EXPERIENCES AT ZEYREK: A PRELIMINARY NEEDS ANALYSIS

Mine GÜVEN

TOWARDS ACCESSIBLE CULTURAL EXPERIENCES AT ZEYREK: A PRELIMINARY NEEDS ANALYSIS

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Abstract

The area of settlement around Zeyrek Mosque (formerly Church of St Saviour Pantocrator) is part of Historic Areas of Istanbul, inscribed on the UNESCO World Heritage List in 1985. The area features many components including Zeyrek Tiled Bath, Sheikh Süleyman Masjid and vernacular timber housing. Multiple restoration projects have been undertaken for Zeyrek Mosque so far (e.g. in 1953 by the Dumbarton Oaks Institute; in the 1950s and the 1960s by the Directorate General of Foundations; in 1997-1998; in 2001-2005; in 2009-2017). As for the restoration of Zeyrek Tiled Bath, it was completed in 2023. While the state of conservation and visitor conditions of these components are regularly monitored by UNESCO, the area in general seems to be hardly accessible for people with disabilities, as two recent field visits have indicated. Recent practices in heritage accessibility highlight the need for innovative, effective and flexible solutions for sustainable and inclusive cultural tourism (e.g. digital practices such as multi-sensory zones and VR/AR experiences; angle of arrival positioning and digital tactile guidance system). Conventional practices target physical accessibility (e.g. tactile and Braille maps, floor strips and mobile device navigation; accessible paving, service windows, and restrooms) as well as information accessibility (e.g. guided tour videos and web page in sign language; tactile architectural models). Research indicates that cultural tourists are interested in gaining authentic experiences rather than knowledge, and museum experiences can be made more accessible and memorable through guidelines and research-informed practices (e.g. sound-enriched audio descriptive guide; voice-driven interactive smart audio descriptive guide). This paper suggests harnessing the potential of technology for accessible cultural experiences at Zeyrek. In addition to subtitled and sign language interpreted videos, and inclusive audio descriptive guides, technology can offer digital storytelling through virtual and augmented reality, 3D-printed replicas and Interactive Multimodal Tangible Interfaces as well as 3D architectural models as possible solutions that may enhance inclusiveness without jeopardizing the Outstanding Universal Value of Zeyrek.

Keywords

Cultural Heritage, Museum Accessibility, User-Centred Design

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Historic Areas of Istanbul were inscribed on the UNESCO World Heritage List in 1985, following the 9th session of the World Heritage Committee (SC-85/CONF.008/9; decision code 9 COM X.A). The four component areas are the Archaeological Park (Sultanahmet Urban Archaeological Site), Süleymaniye Mosque and its Associated Area, Zeyrek Mosque and its Associated Area, and Istanbul Land Walls (UNESCO, 2026).

The Outstanding Universal Value of these historic areas is described in terms of four criteria. Firstly, Hagia Sophia and the Süleymaniye Mosque complex are "unique architectural masterpieces of Byzantine and Ottoman periods" (Criterion (i)). Secondly, some assets (e.g. the terrestrial wall of Theodosius II; the mosaics of the palaces and churches of Constantinople) have influenced "the development of architecture, monumental arts and the organization of space" (Criterion (ii)). Thirdly, artworks and building types (e.g. mosaics and frescos; cisterns and baths; tombs and mosques; vernacular housing in Süleymaniye and Zeyrek) exhibit Byzantine and Ottoman patterns (Criterion (iii)). Finally, there are exquisite examples of Ottoman "ensembles of palaces and religious complexes" (e.g. the Palace of Topkapı; "the Süleymaniye Mosque complex with its caravanserai, madrasa, medical school, library, bath building, hospice and imperial tombs") (Criterion (iv)) (UNESCO, 2026).

The associated area around Zeyrek Mosque is rich with underground archaelogical findings, tombs and shrines, monuments and examples of civil architecture, although some of them have been lost (e.g. the Pantocrator Monastery; most of the Haydar Social Complex). The major assets include nearly one hundred timber houses, Zeyrek Tiled Bath (Çinili Hamam), Zeyrek Cistern, the Low Fountain (Çukur Çeşme), Sheikh Süleyman Masjid, small Ottoman mosques (e.g. Bıçakçı Alaaddin; Kasap Demirhun; Ümmü Gülsüm (Çivizade)), and tombs of Mehmet Emin Tokadi and Zembilli Ali Efendi, in addition to a dozen anonymous shrines in the streets or even inside buildings (Historic Areas of Istanbul Site Management Directorate, 2026).

Currently, most of these assets are open to the public, following the completion of their most recent restoration projects (e.g. Zeyrek Mosque, Zeyrek Tiled Bath, Zeyrek Cistern). There are a number of on-going restoration projects conducted by the Fatih Municipality (e.g. Haliliye Madrasa) in Zeyrek, whereas some of the timber houses and other buildings (e.g. Haydar Bath) have been enclosed by corrugated metal sheets with labels indicating that they might be dangerous for the passers-by and parked vehicles.

In 2009, a number of observations and suggestions were noted with respect to provision of information and visitor management in Historic Areas of Istanbul. It was stressed that there was a need for promotional materials presented through various formats, media and languages; information packages about world heritage sites in Türkiye for tour operators, guides and agencies as well as for awareness raising in the general public about cultural heritage. Other suggestions were increasing the number and variety of cultural routes, creating tour packages that foreground cultural visits rather than shopping, offering combined tickets for special routes, and designing safe and comfortable pedestrian routes and/or transportation plans within the sites (National Commission of Türkiye Tangible Cultural Heritage Expertise Committee, 2009, pp. 262-263).

The state of conservation and visitor conditions of the components of Historic Areas of Istanbul are regularly monitored (UNESCO, 2019; UNESCO, 2025a). Some of the factors adversely affecting the property in 2025 are commercial development, ground and underground transport infrastructures, problems concerning management, monitoring and research as well as potential threats "that could have deleterious effects" on the "inherent characteristics" of Hagia Sophia and the Chora. As for the Ottoman civil architecture in Zeyrek and Süleymaniye, a strategic plan seems to be urgently needed for the conservation, protection and rehabilitation of timber structures so that the current decay and loss can be prevented (UNESCO, 2019; UNESCO, 2025a).

As two recent field visits to Zeyrek have indicated, many of these issues stated above have still not been addressed. What is also striking is the general inaccessibility of the cultural assets in the area for people with disabilities. This study will pinpoint some accessibility issues in the form of a preliminary needs analysis report, and suggest harnessing the potential of technology for accessible cultural experiences at Zeyrek.

The paper is organized as follows. The first section will provide some theoretical preliminaries on experiential cultural tourism and heritage accessibility. The second section will state the aim and research questions of the study and briefly refer to its methodology, while the ensuing subsections will present some observations about the major assets in Zeyrek with respect to accessibility, and suggest possible options for accessible cultural experiences. The final section will provide a general discussion of the findings, and suggest topics for further research.

1. **Experiential Cultural Tourism and Heritage Accessibility**

Cultural heritage accessibility has become a key issue in contemporary tourism studies. As indicated in Article 27(1) of the Universal Declaration of Human Rights, it is a human right "to participate in the cultural life of the community, to enjoy the arts and to share in

scientific advancement and its benefits" (United Nations, 1948). In fact, as stated in Article 9 (Accessibility) and Article 30 (Participation in cultural life, recreation, leisure and sport) of the Convention on the Rights of Persons with Disabilities, persons with disabilities are entitled to access to "places for cultural performances or services, such as theatres, museums, cinemas, libraries and tourism services" as well as to "monuments and sites of national cultural importance" (United Nations, 2006, Article 30(1c)). However, it is often the case that neither "appropriate measures" are taken nor "obstacles and barriers to accessibility" are identified and eliminated to ensure that people with disabilities have access to cultural sites and museums "on an equal basis with others" (United Nations, 2006, Article 9).

While the recent definition provided by the International Council of Museums underlines the significance of museums in strengthening "diversity and sustainability" as "accessible and inclusive" spaces "open to the public", not all museums and cultural heritage sites are accessible for those people with disabilities that would like to enjoy "tangible and intangible heritage" and "experiences for education, enjoyment, reflection and knowledge sharing" offered by museums (ICOM, 2022).

This is not only a serious issue in terms of human rights but also for cultural tourism where there is an "over-supply" of offerings (Prentice, 2001, p. 6). While cultural tourism involves "cultural appreciation, either as experiences or schematic knowledge gaining" (p. 8), tourists seem to favor "the accumulation of experiences rather than of bodies of more schematic knowledge" (p. 7). In fact, "the search for authentic experience" (p. 22) seems to lie at the heart of experiential cultural tourism. Such authentic experiences may be offered in various ways, ranging from direct experience to simulation (pp. 15-21). For example, tourists may be invited to make full use of their senses, "exploring" and "discovering" objects and locations, or they may simply construct their "personal tourism product" "through their imaginings and recollections" (p. 11). In brief, for the competitive cultural tourism industry, accessibility and inclusivity seem to be targets worth achieving so that authentic experiences can be offered for all.

So far, various non-governmental organizations (e.g. International Centre for the Study of the Preservation and Restoration of Cultural Property; Network of European Museum Organizations) have contributed to the field. There have been reports about relevant research (e.g. Ciaccheri, 2024) and best practices (e.g. Manko & Milošević Micić, 2024; UNESCO, 2025b). In addition, toolkits (e.g. Taylor, 2025), checklists (e.g. ICOM Culture for All Service, 2022; VocalEyes, 2022) and guidelines (e.g. Interreg Central Europe, 2017) have been prepared so that cultural experiences can be made more accessible for people with disabilities.

Accessibility options in the museum setting for people with sensory disabilities include audiovisual materials with sign language interpretation and subtitles for D/deaf and hard-of-hearing visitors as well as tactile materials, touch tours and audio descriptive guides for blind and low-vision patrons. Although many museums predominantly offer visual experiences, given the range of potential barriers to access other than physical and sensory ones (e.g. emotional, cognitive, social), it is essential to acknowledge "a multidimensional accessibility spec-

trum" (Eardley et al., 2022, p. 151). In fact, access can be enhanced by offering multisensory descriptions involving textures, scents and tastes as well as more descriptive and structural information instead of purely factual information (Eardley et al., 2022, pp. 152-153). Through research-informed practices (e.g. sound-enriched audio descriptive guide (Hutchinson & Eardley, 2024); voice-driven interactive smart audio descriptive guide (Wang, 2024)), access provisions can be expanded so that more enjoyable and memorable experiences can be shared by all museum visitors (Hutchinson & Eardley, 2021; Eardley et al., 2022).

Recent practices in heritage accessibility highlight the need for innovative, effective and flexible solutions for sustainable and inclusive cultural tourism (e.g. digital practices such as multi-sensory zones and VR/AR experiences at Sichuan University Museum; Angle of Arrival Positioning and Digital Tactile Guidance System at the Museum of China Press and Publication). Conventional practices target physical accessibility (e.g. tactile and Braille maps, floor strips and mobile device navigation at Beijing Planning Exhibition Hall; accessible paving, service windows, and restrooms at the Palace Museum) as well as information accessibility (e.g. guided tour videos and online page in sign language; tactile architectural models at the Palace Museum) (UNESCO, 2025b).

In many cases, the affordances of new technology have been harnessed for enhanced accessibility. For example, 'The Ara as It Was' project implemented at the Ara Pacis museum in Rome employs virtual and augmented reality for the Ara reliefs. Visitors use a VR headset, smartphone and a three-dimensional (3D) tracking system, for an immersive and multi-sensorial experience where 3D overlays are anchored onto real surfaces, while voices in a selected language describe the content. Such projects enable "immersive socialisation" and "escapism" through mixed realities (e.g. digital storytelling, multimedia content) and "museum experiences 4.0" such that entertainment is added to the traditional educational benefits of museum visits (Trunfo et al., 2022, pp. 6-7; pp. 4-5; pp.13-14).

Another project has relied on digitalization for more usable and accessible built environment. Acknowledging the inherent physical barriers posed by historic buildings for accessibility, the INCEPTION project team have developed open-source, 3D architectural models of cultural heritage buildings. In this way, it has become possible to avoid adaptive interventions that could potentially deform the original features of built heritage (e.g. ancient castles, monasteries, palaces, etc.), and to ensure that the architectural features of such buildings are digitally conserved through databases of static and moving images and information-bearing texts. In addition, they have benefitted from the active contribution of stakeholders and end-users, thus adopting inclusive and participative design methods (Giacobone et al., 2024, pp. 20-21).

Yet another innovative and affordable solution is the use of 3D printing technology and Interactive Multimodal Tangible Interfaces for blind and low-vision museum visitors. It has been found that 3D-printed tactile replicas not only arouse curiosity but also offer multisensory experiences. As long as the interfaces are consistent, user-centered and intuitive (e.g. push-buttons; adjustable volume) in terms of design, users, "empowered" through "a sense of control", can enjoy museum artifacts along with the relevant information (Avni et al., 2025, pp. 18-19).

Having provided an overview of experiential cultural tourism and heritage accessibility in the present section, we will introduce the research questions and methodology in the following section, whose subsections will present a number of observations about the major assets in Zeyrek with respect to accessibility, and suggest viable options for accessible cultural experiences.

2. **Heritage Accessibility at Zeyrek: Research Questions, Methodology and Observations**

The major assets of the area associated with Zeyrek Mosque are Zeyrek Tiled Bath, Sheikh Süleyman Masjid and timber houses. In addition to these, there are water systems (e.g. Zeyrek Cistern; the Low Fountain), small Ottoman mosques, tombs and shrines, and ruins of the Haydar Social Complex. As was mentioned above, the state of conservation and visitor conditions of these assets are monitored by UNESCO. However, there does not seem to exist any mechanism to determine the extent to which these assets are accessible for people with disabilities. Moreover, none of the published academic research about Zeyrek seems to focus on accessibility.

In an attempt to fill that research gap, the objective of this study is to identify accessibility problems, if any, at Zeyrek Mosque and in the area associated with it, and to suggest feasible options in order to eliminate any potential barriers to access by harnessing the affordances of technology. Accordingly, the following two research questions have been formulated:

a. What is the current state of Zeyrek Mosque and its Associated Area with respect to accessibility for people with disabilities?
b. In case Zeyrek Mosque and its Associated Area do not seem to be fully accessible for all visitors, then what technology-driven solutions could be suggested to remedy the situation?

The identification of accessibility problems naturally requires field observation. Therefore, the area has been visited twice and the current state of some of the assets has been documented with photographs to determine whether or not conventional measures such as floor strips and accessible paving had been taken to ensure physical accessibility. As for information accessibility, it soon became clear that no measures had been taken to eliminate potential barriers to access for visitors with sensory disabilities. In order to validate the researcher's observations, it was decided to consult actual users of the assets. Therefore, informal interviews were conducted with two visitors on their first-hand experience of Zeyrek Mosque. During the first field visit (on October 31, 2025; before the noon prayer on a Friday), an elderly female worshipper was interviewed on her experience after she completed her visit/prayer at Zeyrek Mosque. On the second visit (on 8 November 2025; after the noon prayer on a Saturday), the interviewee was a female wheelchair user who was requested to take photographs of challenging/inaccessible spots of Zeyrek Mosque and to e-mail them to the present researcher. Since no visitors with sensory disabilities were to be found on site during the two visits, the researcher was unable to obtain their views about the level of accessibility in the area. Admittedly, having to rely on the opinions of two visitors only has been a methodological limitation of this study.

Administering a detailed questionnaire to many visitors and/or conducting structured interviews and/or focus group discussions could have helped to corroborate the field observation and photographic documentation.

The following subsections will present the findings of the present qualitative exploratory study in the form of a preliminary needs analysis based on an overview of the general accessibility conditions of the relevant assets, and make some suggestions for possible accessibility provisions and/or improvements.

2.1. **Zeyrek Mosque**

The (construction) history of Zeyrek Mosque in the Byzantine and Ottoman periods has been revealed through some of the restoration projects completed so far (e.g. Ousterhout et al., 2000; Ousterhout et al., 2009; Nar, 2019; Nar, 2025). The current building is composed of three juxtaposed historical structures: The south church (St Saviour Pantocrator (Christ the Almighty), originally built by the empress Eirene); the north church, (dedicated to the Virgin Eleousa (the Merciful)), and the imperial mortuary chapel (dedicated to the archangel Michael), where both Eirene and the emperor John II Comnenus were subsequently buried. These buildings were once part of the Pantocrator Monastery, founded (ca. 1118-1136) during the reign of John II (1118-1143). The monastery also included a hospital with 50 beds, an insane asylum and a hospice for 24 senior persons (van Millingen, 1912; Freely, 1996; Ousterhout et al., 2000).

During the Latin period (1185-1261), many of the relics and valuable assets of the monastery were taken to St Mark's Basilica at Venice (van Millingen, 1912, p. 224). After 1261, when the Greek rule was restored, the Genoese demolished the monastery, taking some of its stones to Genoa to be used in the construction of the St George Church (van Millingen, 1912, p. 229). Deserted by Christians after the Ottoman conquest in 1453, the building became a workshop and dwelling for leather workers for some twenty years, after which it was converted to a mosque (van Millingen, 1912, p. 233). Turkish sources indicate that the building served as a madrasa, directed by Molla Zeyrek 'Mullah the Intelligent' (d. 1498?), until the establishment of the Fatih complex (1471) (İpşirli, 2016, p. 266; Yılmaz, 2016, p. 377). Severely damaged by the earthquakes in 1766 and 1894, it was repaired and restored during the Ottoman period, hence its Baroque-style *mihrab* and royal lodge. During the Republican period, there were a number of restoration projects (in 1953 conducted by the Dumbarton Oaks Institute; in the 1950s and the 1960s by the Directorate General of Foundations; in 1997-1998 and in 2001-2005, funded by a number of foreign and local institutions, and finally in 2009-2017, undertaken by the relevant units of Istanbul Metropolitan Municipality, based on a protocol approved of by the Directorate General of Foundations) (Underwood, 1956; Megaw, 1963; Çuhadaroğlu, 1974; Ousterhout et al., 2000; Ousterhout et al., 2009; Nar, 2019; Nar, 2025).

Currently, the immediate area around Zeyrek Mosque is not completely physically accessible (e.g. steps), due to level differences of up to 1.80 m between the ground floor inside the building and the original street (stone) pavement revealed through archaeological excavation (Nar, 2019, pp. 190-191; pp. 219-220). The entrance into the outer narthex has a nar-

row marble ramp, but the usual plastic covering seen in many mosque entrances is heavy and cannot be lifted by a wheelchair user. There is another carpet-coated metal ramp from the outer narthex into the inner one, but there is no level entrance into the south building through the original red marble door. The royal lodge and the gallery are not accessible due to narrow and steep wooden stairs. There is also a level difference between the south building and the middle one (due to the stainless steel frame on which the glass panel covering the opus sectile floor has been placed).

As in many mosques, there are no accessibility options for people with sensory disabilities. Some of the signs (printed on A4 paper stuck on the walls) are in English, while the rest are in Turkish, intended to guide the local visitors about what to do (e.g. how to find the ladies' section, and to cover their heads before entering the prayer section) and what not to do (e.g. why they should not lift the carpet over the glass under which the opus sectile can be seen). There is no provision of information on the artistic, architectural, historical and cultural significance of the heritage site, except for that written on the information totem in front of the entrance.

As the core of the historic area, Zeyrek Mosque deserves to become the focal point of accessible cultural experiences. Similar to the 3D architectural models created within the framework of the INCEPTION project (Giacobone et al., 2024) mentioned above, the architectural evolution of the building can be represented, making use of the surveys and plans provided by studies documenting different phases of construction and/or restoration (van Millingen, 1912; Ebersolt & Thiers, 1913; Çuhadaroğlu, 1974; Ousterhout et al., 2000; Ousterhout et al., 2009; Nar, 2019). Like in 'The Ara as It Was' project (Trunfo et al., 2022), a multi-sensorial, immersive experience can be offered through virtual and augmented reality for the major Byzantine features that are no longer visible and/or displayed (e.g. synthronon, iconostasis (Megaw, 1963); mosaics (Ousterhout et al., 2009, pp. 148-149, Figures 17-18); the red granite hidden under the limestone covering of the northwestern column in the south building (Nar, 2019, pp. 211-212, Figure 26); wall painting kept behind opaque glass panels (UNESCO, 2019, p. 23), etc.). Especially the scenes depicted in the opus sectile flooring (Underwood, 1956; Megaw, 1963) are worth exploring in detail, through visual representations paired with enriched audio descriptions. In fact, this flooring has already been documented with millimetric precision through photographs and 3D scanning, before the glass panel and its steel frame were installed (Nar, 2019, p. 216). Likewise, fragments of stained glass and marble revetments (Megaw, 1963) can be represented in completed form through animation. A documentary film can be created, providing essential information about the historical and cultural significance of the heritage site as well as the artistic and architectural features of the building. Naturally, this audiovisual content should be presented with Turkish subtitles for the deaf and hard-of-hearing as well as sign language interpretation in TİD (Turkish sign language). Since the ordinary tourist does not usually know where to look and what to see in works of art and architecture, the text for the voice-over prepared for the documentary may include features of audio description in plain language, thus creating a common narrative for all. This documentary should also be made available in

English voice-over and subtitles at regular sessions scheduled between prayer times. These projects could be designed in the form of post-graduate theses in the relevant academic fields, and realized with the financial support of the Directorate General of Foundations, Istanbul Metropolitan Municipality or any other relevant institutions.

For such accessibility options to be offered to the public, it is necessary to introduce museum functions in the building, as already suggested by Çuhadaroğlu (1974, p. 100). The building seems to have some available space that can be repurposed without spoiling the originality (e.g. in the outer narthex, in the security guard's box in the outer narthex, in the inner narthices, and possibly in the rooms in the southern courtyard. Currently, these rooms are not open to the public, but they were where Akşemseddin Dergah 'dervish lodge', which dates from the second half of the 15th century and was called Semerci İbrahim Efendi Tekkesi as of the 19th century, was active until 1925 (Nar, 2019, p. 187). Given that there is already a sound system installed for the prayer services, the north building can serve as a hall for the screenings of audiovisual content, with the addition of a foldable projection screen. As for the middle building, it may be used to display (3D-printed or moulded) tactile replicas (cf. Avni et al., 2025). Such scaled models of significant objects at Zeyrek (e.g. typical timber houses; decorated tombstones; marble cornices, etc.) may be accompanied with audio description and/or information written in Braille and/or large print.

The two field visits have suggested that the mosque probably serves a small number of worshippers only. In fact, there were only two worshippers during the first visit; an old man reading the Quran, and the lady interviewed, while she was enjoying lemonade and chocolate cake at Zeyrekhane, the café next to Zeyrek Mosque with a magnificent view of the Golden Horn and the Süleymaniye Complex. This 76-year-old believer (without a headscarf) was in the habit of visiting a couple of historical mosques in Istanbul each year, alone or with a friend. She recounted that a yellow cat had licked her hand while she was performing two prayer-cycles to "greet" the mosque. The cat also sat on her lap, and then on the carpet, watching her as she read *Surah Ya-sin* (No. 36) from her own booklet of prayers while she was sitting on a low step by the window in the north building. It is highly likely that she left the cultural site with fond memories of a unique experience.

As for the wheelchair user interviewed on the second visit, she noted that she and a female companion had come a long way to see the monument on the recommendation of a friend. The friend had advised them to take the Marmaray train from Gebze, change trains at Yenikapı and get off at Vezneciler. That part of the journey was totally accessible, but it had taken them 19 minutes to get to Zeyrek Mosque itself. On being asked about why they had not taken a bus, she complained that the buses were crowded, and non-disabled people were not aware of possible accessibility problems that people with disabilities face.

Subsidized by the Fatih Municipality, Zeyrekhane, the café with affordable prices -yet not serving local food and beverages, or a specialty associated with Zeyrek- was full of local residents who seemed indifferent to the monument itself. In fact, time seemed to have stopped for some men dressed in black robes and turbans, and women in black Ottoman burqas (*çarşaf*) that did not cover their faces.

Whereas the local tourists (from other districts of Istanbul) interviewed were apparently more interested in the current Ottoman features of the building (e.g. the *minbar* (pulpit), the *mihrab* (altar), the royal lodge, the hand-drawn decorations on the domes), the few Byzantine features displayed did not seem to satisfy the Hungarian group of tourists the researcher met on her first visit. Most of these foreign visitors had left in 10 minutes, while two teenagers from the same group tried to lift the carpet over the staircase leading to the substructure of the north building. Discovered in the most recent restoration, this substructure must have aroused their curiosity, possibly because human skeletons (now under the custody of the Archaeological Museum) were also found there (Nar, 2019, pp. 217-218).

Such behaviour suggests that Zeyrek Mosque may prove to be particularly fruitful for digital storytelling. There are a number of very interesting incidents mentioned in Van Millingen (1912), e.g. how the icon of St Demetrius of Thessalonia was brought to the monastery (p. 222); the black marble sarcophagus of Manuel Comnenus and the porphyry slab brought from Ephesus (pp. 222-223); how an abbot from Alsace managed to smuggle invaluable relics abroad (pp. 224-226); what happened to the icon of the Theotokos Hodegetria (pp. 226-227); how the Genoese destroyed the building (pp. 227-229); and how Gennadius became the first patriarch after the Turkish conquest (pp. 230-233).

2.2. **Zeyrek Tiled Bath**

Zeyrek Tiled Bath (also called Hayreddin Paşa Hamamı; Kaptanpaşa Hamamı) was built by Architect Sinan (d. 1588) between 1540-1546 for the foundation established by the admiral Barbaros Hayreddin Pasha (1478-1546). It is a two-section bath, accommodating both male and female users. Currently, the characteristic tiles are only visible in the male section of the bath. The rest of the tiles seem to have been either damaged or stolen after the great fire in 1833 (Koçu, 1963, p. 4015).

The restoration/renovation of Zeyrek Tiled Bath (undertaken by a private enterprise running small luxury hotels with global sustainable tourism certificates) was completed in 2023, after various interventions to stabilize and strengthen the building (e.g. the implementation of a well-foundation) (TRT2 Restorasyon101, 2024).

Both the bath and the museum are open to the public. The cistern is used for temporary art exhibitions. Because of level differences, physical accessibility is a serious problem. There is a narrow ramp on the roof level, but it may not have been intended for wheelchair users. The museum entrance has a turnstile activated by coded paper tickets. The marble stairs are steep and narrow, with no stairlifts. A metal grid has been placed over the uneven ground of the cistern. It may not be appropriate for (white) canes or high heeled shoes, and spots where the earth is deep under the grid may cause a feeling of uneasiness for people with a fear of heights.

The museum itself is technologically up-to-date with animated content -triggered by motion sensors- depicting scenes from traditional baths as well as with animations of patterns of tiles, where the remains of tiles in display are shown in completed form. Labels and signs are in Turkish and in good English translation. There is a 3D clear-plastic model of the build-

ing and another 3D relief plan of the premises. The museum is free for people with disabilities and their companions. Guided tours are scheduled frequently, and the museum administration is in the process of preparing an audio guide.

Multiple level differences limit physical accessibility options to installing stairlifts; therefore, offering tactile models of some of the objects displayed as well as audiovisual content and/or virtual/augmented reality about the history of the bath might be feasible solutions, provided that some available space can be found.

The bath is already used for special events (e.g. henna night, bridal bath). In addition, the enterprise that runs the bath can create a tour package for international clients staying at their four hotels in Istanbul so that these tourists can participate in a guided tour of Zeyrek Mosque, Zeyrek Cistern and perhaps Sheikh Süleyman Masjid before enjoying a traditional Turkish bath.

2.3. **Sheikh Süleyman Masjid**

The restoration of Sheikh Süleyman Masjid was undertaken as a Med-Art (Transnational Cooperation for Cultural Heritage Preservation) project with the collaboration of Directorate General of Foundations and Assorestauro (Italian Association for Architecture, Art and Urban Restoration). The original building is thought to have been built as a mausoleum dating back to the 5th century, because of the recently discovered arcosolium (crypt) underneath the building (Küçük et al., 2017; Sav, 2017; Sav & Yalçın, 2017). Severely damaged in the great fire of 1756, it was repaired during the reign of Mustafa III (1757-1774), hence the Baroque hand-drawn decorations (Sav, 2017, p. 64).

There are also a number of tombstones in the burial area associated with the building. Erected for a janissary called Ali Molla (d. 1797), the most precious one features a (*dardağan*) turban placed on top of a rectangular stone bearing an image of a galley symbolizing the 56th battalion. The original is now in the museum of the Directorate General of Foundations, while its replica is in situ (Kılcı, 2017, p. 201).

There are no accessibility provisions on the premises. The labels next to the stones do not give sufficient information in today's Turkish about the engraved inscriptions. Information accessibility may be enhanced by tactile (scaled) models of some of the tombstones, and a documentary that highlights the unique Byzantine and Ottoman properties of the building, to be screened at Zeyrek Mosque.

2.4. **Timber Houses**

Ottoman civil architecture is relatively well-preserved in Zeyrek. In fact, there are nearly one hundred timber houses exemplifying the 19th century patterns with their characteristic eaves, overhangs and facades. A major threat for such vernacular housing has been the implementation of Law No: 5366 (on the conservation and use of historic and cultural properties) that led to the loss of some registered buildings in Süleymaniye (National Commission of Türkiye Tangible Cultural Heritage Expertise Committee, 2009, p. 244; p. 257).

Between 1977 and 1981, the German Archaeological Institute (DAI) at Istanbul conducted an architectural documentation and social research project around Zeyrek Mosque under the leadership of Wolfgang Müller-Wiener and Johannes Cramer, in cooperation with Istanbul Municipality and a number of higher education institutions (namely, Darmstadt Technical School; Karlsruhe University; Istanbul Technical University; Tübingen University). A total number of 139 buildings were photographed, while 66 others were both surveyed and photographed. The analysis also included other relevant information (e.g. construction materials used; age of structure; state of conservation; function; number of floors; ownership). These data were subsequently digitalized by using a web-based GIS (Geographic Information System) that enables spatial data to be stored, visualized, analyzed and distributed over the Internet. In fact, the plan contours of the buildings in Zeyrek were indicated, making use of historical maps and the findings in 1913, 1933, 1978 and 2009, along with the relevant photographs and drawings (Zeyrek Projekt v0.1. at https://geoserver.dainst.org/catalogue/#/map/6318) Akan & Kinzel, 2021, pp. 8-9). Additional sources are available at iDAI.world (https://idai.world), DAI's digital archaeological information platform. Moreover, a book presents the documented data in the form of narratives by imaginary characters as well as interviews conducted with stakeholders and researchers (Akan et al., 2025).

As far as physical accessibility is concerned, despite sloped topography, the streets of Zeyrek do not generally prevent wheelchairs from being used. As for information accessibility, there seems to be no provision of information about particular buildings. A number of beautifully restored houses are in use, while abandoned ones are in disrepair, often enclosed by metal sheets so that they will not present a health hazard. There are also other buildings adapted for modern living (e.g. satellite dishes, air-conditioner units, etc.) without regard to their historical and architectural importance. Creating scaled replicas and displaying them at Zeyrek Mosque may be a viable solution, given that one cannot visit the houses, and most of them only retain the external appearance.

2.5. **Minor Mosques and Shrines**

Zeyrek is one of the quarters of Fatih, where there are 334 active mosques and masjids in addition to 273 inactive ones (Office of the Fatih Mufti, 2017, pp. 567-581). There are two mosques dating back to the second half of the 15th century: Mustafa Muslihittin Yarhisar Mosque (1461), featuring hand-drawn embellishments and stained glass windows, and Kasap Demirhun Masjid (1462) (Office of the Fatih Mufti, 2017, pp. 384-385; p. 306). Two mosques are from the first half of the 16th century, (Unkapanı) Bıçakçı Alaaddin Mosque (1503) and Hacı Hasan Mosque (1505). Because of the sloping terrain, the minaret of the latter is called *Eğri Minare* 'slanted minaret', decorated with stones and bricks forming rhombus-shaped patterns in two contrasting colours (Office of the Fatih Mufti, 2017, p. 462; p. 230).

From the second half of the 16th century, three mosques are worth mentioning: Ümmü Gülsüm (Çivizade) Mosque (with wooden wainscot in the lower part of the walls complemented with tiles reaching up to the ceiling); Hace-i Rakım Efendi Mosque (1585), a work of Architect Sinan; and Piri Mehmet Pasha Mosque (1543), also called Soğuk Kuyu 'the cold

well' because it is located on top of Zeyrek Cistern (Office of the Fatih Mufti, 2017, p. 467; p. 222; p. 400). While there are some mosques lost due to fires or disrepair, Hüsambey Mosque (Tezgahcılar); Sanki Yedim 'As if I have eaten' Mosque, and Divittar Keklik Mehmet Efendi Mosque are other local mosques whose original dates of construction are not known (Office of the Fatih Mufti, 2017, p. 271; p. 413; p. 188).

One of the frequently visited shrines is the one built for Mehmet Emin Tokadi (1664-1745), a sufi caligrapher, teacher and poet. Another is the shrine of Zembilli Ali Cemali Efendi (d. 1526), a teacher and mufti, known for the straw basket he would let down his window so that he could quickly issue the fatwas requested by the public (Küçükdağ, 2016, p. 248).

All of these mosques and shrines have information labels in Turkish prepared by the Office of the Fatih Mufti. Yet there are no accessibility provisions inside mosques except for stools for the elderly who cannot pray on their knees.

2.6. **Zeyrek Cistern and the Low Fountain**

Zeyrek Cistern was the largest of the cisterns serving the Pantocrator Monastery. Featuring vaulted galleries above its walls, and a series of niches on its facade that is partially above the ground, the cistern is now accessible from the entrance on Atatürk Avenue. As for Çukur Çeşme, the so-called 'low' fountain, it was formerly probably fed by the holy spring (*hagiasma*) of the monastery. It is now inside a renovated timber building that used to be the Saliha Sultan primary school (Historic Areas of Istanbul Site Management Directorate, 2026). Since it is easy to create a mental image of such common structures, cisterns and fountains do not seem to require detailed audio description. Information accessibility can be enhanced through more reader-friendly Turkish texts and translated versions.

2.7. **The Haydar Social Complex**

Haydar Pasha Madrasa was established by Hadım Haydar Pasha (d. 1563), a non-African eunuch, who eventually became one of the viziers of Süleyman I. The inscription (in Arabic), indicating that the construction was completed in 1569, is under the custody of the Directorate General of Foundations. With a monumental entrance on Haydar Road, the madrasa had 16 rooms and a classroom, but no traces have been left of the amenities (e.g. a laundry, an ablution room, a water tank with a fountain). The architect is not mentioned in the inscription, but the two-section Çukur Hamam 'the low bath' and the mosque of the social complex had been built by Architect Sinan (Aydemir & Sav, 2010, pp. 4-8). Today, the ruins of the bath are enclosed behind metal sheets.

3. **Discussion and Conclusion**

This paper has focused on Zeyrek Mosque and its Associated Area, including the following assets: Zeyrek Tiled Bath, Sheikh Süleyman Masjid, timber houses, various small mosques and shrines, Zeyrek Cistern, the Low Fountain and the Haydar social complex. The aim has been to identify the problems, if any, concerning the accessibility of the area for visitors with disabilities, and to suggest possible solutions for accessible cultural experiences at Zeyrek.

As noted by Prentice (2001), "experiential tourism is non-participative, involving insight through observing and imagining at a place" (p. 10). In the case of Zeyrek, authentic experiences "may be promoted further by emphasizing 'location'" (p. 17), since this is where various important events have occurred throughout the past nine centuries. Although some of the assets are in ruins and some of them have totally disappeared, some "revered relics" can still be offered despite the fact that "the physical form of the site is not visible" anymore (Prentice, 2001, p. 18). In fact, "a rich variety of otherwise unobtainable insights can be offered by high-tech simulation" (Prentice, 2001, p. 21). Therefore, this study has suggested harnessing the potential of technology for enhanced accessibility and memorable cultural experiences at Zeyrek, given that innovation and inclusivity are key concepts in cultural tourism and heritage accessibility.

For physical accessibility, practices such as floor strips, accessible paving, service windows, restrooms, tactile and Braille maps have already become standard methods of improvement. Currently, there seems to be no available application that enables safe and comfortable navigation at Zeyrek using mobile devices. A free, downloadable application (compatible with the major operating systems) can be developed and offered on the website of a relevant official institution (e.g. the Fatih Municipality; the Directorate General of Foundations). The same application could also be employed to enable access to particular assets through QR codes on site.

Since it is imperative that the original arrangement of historical buildings not be distorted, 3D architectural models and digital storytelling through virtual and augmented reality are technological tools that may enhance information accessibility and inclusiveness without jeopardizing the Outstanding Universal Value of Zeyrek. Subtitled and sign language interpreted videos, inclusive audio descriptive guides, tactile replicas as well as essential information offered in Braille, large print and high-contrast colors are common methods of information accessibility. For further dissemination of information, promotional materials and information packages can be made available in various formats, media and multiple language options. Moreover, all the major assets at Zeyrek need dedicated websites compatible with the latest version of Web Content Accessibility Guidelines (WCAG 2.2), recommended in 2023 by the World Wide Web Consortium (W3C) to achieve perceivable, operable, understandable and robust web pages.

Above all, it is essential that accessibility solutions be designed based on users' first-hand knowledge, keeping in mind the motto "Nothing About Us Without Us." As noted by Edelstein (2022) among many others, employing user-centred and participative design methodologies (e.g. a co-design workshop (Giacobone et al., 2024, pp. 20-21)) will render the most inclusive solutions.

Unfortunately, Zeyrek is not as popular as the Archaeological Park, despite the fact that it offers other precious cultural assets within walking distance, such as Valens (Bozdoğan) Aqueduct, Kadınlar Pazarı (Ladies' Bazaar), At Pazarı (the horse market) Square, Gazanfer Agha Madrasa and SGK Buildings. This suggests that it is necessary to create a variety of routes that may be customized with respect to personal preferences and/or needs, and tour packages that foreground the unique aspects of the heritage assets. In addition, awareness raising in the general public is urgently needed so that they will cherish and protect this irreplaceable world cultural heritage.

To sum up, this paper has presented the results of a qualitative exploratory study that has relied on field observation and informal interviews to describe the current level of accessibility of the relevant assets at Zeyrek, and suggested a number of technology-driven accessibility provisions and/or enhancements. However feasible the suggestions may seem, their realization may involve various challenges (e.g. technical, economic, regulatory, operational). Within the limited scope of the present study, such potential challenges have not been discussed at all. It has not been possible to elaborate on the particular suggestions for each asset, either. A research project in the near future could operationalize the suggested accessibility options through a strategic plan. The first step could be to distinguish among the suggested technology-driven accessibility solutions on the basis of estimated cost and duration of implementation. For example, designing WCAG-compatible websites and producing relevant accessible media content/information packs are relatively low-cost actions that can be realized in the short-term. On the other hand, developing a mobile application for navigation/information retrieval, creating relevant accessible audiovisual materials/audio descriptive guides and installing necessary hardware (e.g. on-site kiosks for QR signage) would involve a higher level of expenditure in the medium-term. As for 3D architectural models and digital storytelling through virtual and augmented reality, they are bound to be long-term accessibility options, given that they not only require costly expertise but also institutional support for the technological infrastructure.

The Outstanding Universal Value of the assets in Zeyrek arises not only from the Byzantine and Ottoman patterns they exhibit but also from their lasting influence as unique examples of architecture and monumental art. It is essential to identify any accessibility problems and to eliminate them through appropriate precautions so that this cultural site can be equally accessible for all. However, as noted by Ali (2026), people with disabilities may "enter" cultural heritage sites and museums, and "feel welcome", but accessibility and inclusivity do not entail empowerment. Empowerment is realized only when people with disabilities can "shape their experience" of cultural assets, possibly through technology (e.g. co-creative generative artificial intelligence). In this way, they are no longer passive recipients but agentive users actively engaging with these assets. And that is where technology, heritage accessibility and cultural tourism converge. In "the search for authentic experience" (Prentice, 2001, p. 22) at cultural heritage sites, technology can afford innovative, effective and flexible solutions. Heritage accessibility is meaningful, provided that participatory methodology (Giacobone et al., 2024) and technology (Avni et al., 2025) are paired with entertaining authentic experiences (Hutchinson & Eardley, 2021; Eardley et al., 2022; Trunfo et al., 2022) towards empowerment.

In conclusion, the heritage sector needs to benefit from the affordances of interactive and immersive technologies (e.g. artificial intelligence; AR/VR) to bridge the gap between the needs of potential visitors of cultural heritage sites and the actual circumstances that prevent them from enjoying their right to accessibility. As long as inclusivity and sustainability are the guiding principles, many opportunities lie ahead for accessible cultural experiences at Zeyrek. Further research can be directed towards the ultimate aim of making cultural heritage more accessible, inclusive and empowering for everyone, no matter how diverse their particular needs may be.

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MAPPING THE RESEARCH LANDSCAPE OF COMMUNITY KITCHENS: A BIBLIOMETRIC ANALYSIS OF SOCIAL INCLUSION PERSPECTIVES

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Abstract

While Community Kitchens (CKs) are recognized as vital participatory settings for social benefit, the academic literature lacks a comprehensive, global mapping to identify research trends, core themes, and collaborative networks. Existing reviews often focus on specific health or dietary outcomes, leaving a gap in understanding how these spaces holistically contribute to social inclusion and cohesion. This study employs a bibliometric analysis of 135 peer-reviewed articles sourced from the Web of Science and Scopus databases up to 2025. Using the SPAR-4-SLR protocol and R bibliometrix software, the research performs science mapping -including co-citation, collaboration, and thematic cluster analysis- and performance analysis to determine the field's current state and identify future directions. The findings reveal a sharp increase in publications after 2018, with research accelerating further following global crises such as COVID-19. The literature is highly multidisciplinary but dominated by health, nutrition, and public health journals. Canada and the United States emerge as the most productive and influential countries, with strong author collaboration networks centered around a small group of leading scholars. Thematic analysis identifies social cohesion and social inclusion as the most prominent research cluster, surpassing health, nutrition, and food security themes. Studies within this cluster emphasize dignity, non-stigmatizing food provision, empowerment, participation, and the strengthening of social capital through collective cooking and eating practices. Overall, the results demonstrate that community kitchens are conceptualized in the literature not merely as food access mechanisms, but as spaces of social infrastructure that foster inclusion, agency, and community resilience. By systematically mapping the field, this chapter contributes to a clearer understanding of how social inclusion has become the central analytical lens in community kitchen research. The findings provide a foundation for future quantitative, comparative, and policy-oriented studies, and offer evidence-based insights for practitioners and policymakers seeking to strengthen inclusive food systems.

Keywords

Community Kitchens, *Literature Review*, *Bibliometric Analysis*

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"*As one candle lights the next,*
so one heart lights the next,
and thousands follow.."
Leo Tolstoy

Community Kitchens (CKs) have emerged as a significant subject of research within contemporary social sciences and public health literature. Although the term encompasses various definitions due to the diversity of structures and goals, CKs fundamentally describe participatory, community-based settings where individuals convene to collectively plan, prepare, and share food, thereby generating social benefit (Tarasuk & Reynolds, 1999). This environment transforms the act of cooking into a powerful platform for social interaction, learning, and solidarity (Tarasuk & Reynolds, 1999). In this study, the concept of community kitchens is framed broadly to include all initiatives where participants gather to produce/share food and strengthen social bonds from a perspective centered on social inclusion and public good. The majority of published research concludes that CKs generally yield positive social benefits (Engler-Stringer & Berenbaum, 2007).

This domain offered by community kitchens is critically important from the perspective of active participation in social life and social inclusion. These initiatives involve individuals in planning, shopping, sharing, and decision-making processes, shifting them from a passive role as aid recipients to active agents of production and sharing (Engler-Stringer & Berenbaum, 2007). In short, community kitchens promote inclusion and make participants a part of the formation. In this context, the kitchen functions as an inclusive public sphere where social ties are reinforced through interaction and encounter. Studies demonstrate that the collaborative and self-help nature of these kitchens enables participants to move away from traditional and passive "coping behaviors" such as resorting to charitable food aid, thereby allowing them to develop a sense of autonomy and integrate more easily into life and society (Engler-Stringer & Berenbaum, 2007).

Food aid from the third sector will address the immediate needs of households until governments in affluent nations tackle the poverty challenges faced by their citizens (Andriessen & van der Velde, 2024). However, CKs are emphasized as being effective in reaching and engaging disadvantaged groups, such as low-income populations, people with disabilities, and migrants (Ibrahim et al., 2019). The friendly atmosphere they offer softens the boundar-

ies between different social groups, strengthening social cohesion and increasing participants' empathy towards each other and disadvantaged groups (Ibrahim et al., 2019). These mechanisms focus on building resilience among individuals experiencing food insecurity and social isolation (Engler-Stringer & Berenbaum, 2005). They reduce the necessity for participants to use facilities like food banks or soup kitchens, thereby offering a non-stigmatizing environment for social inclusion, unlike traditional forms of aid (Agarwal, 2022; Engler-Stringer & Berenbaum, 2007). Consequently, participants report feeling greater dignity and self-respect in an atmosphere that makes them feel respected and valued (Engler-Stringer & Berenbaum, 2007; Iacovou et al., 2013). Iacovou et al. (2013) confirm that these kitchens significantly boost social interaction, skills, and social support while noting the preservation of individual dignity and self-respect. While CKs certainly provide financial contributions to participants, the provision of monetary savings is not their only goal; rather, this saving acts as a powerful tool supporting the social inclusion process of low-income groups. This indirect benefit promotes a more inclusive participation in society by improving nutritional quality while simultaneously strengthening individuals' economic autonomy and social dignity (Engler-Stringer & Berenbaum, 2007). Even Tolstoy positioned the community kitchens he established between 1891 and 1893 not only to alleviate hunger but as a tool for combating social inequality, arguing that these structures created an "infectious kindness" that spurred spontaneous social transformation (Aizman, 2021).

Despite the multidimensional impact of community kitchens, the holistic mapping and investigation of the academic literature in this field remains limited. In this regard, several important studies have emerged, reviewing the literature and highlighting prominent themes. For instance, Engler-Stringer and Berenbaum (2005) conducted a literature review synthesizing scattered research on the phenomenon of collective kitchens in Canada up to that time. Their work examined the history, operating methods, and psychosocial effects on participants. Subsequently, the systematic literature review by Iacovou et al. (2013) comprehensively addressed the impacts of CKs in the context of dietary behaviors, food security, and health outcomes, in addition to social health. A more recent review by Agarwal (2022) discussed these initiatives through the lens of food democracy, focusing on themes of political solidarity and active participation. However, while each of these reviews deeply explored a specific aspect or aim of the literature, the existing research lacks a comprehensive, global, and bibliometric mapping that reveals the dynamics, core themes, most productive researchers, and cross-country collaboration networks of community kitchens research. The examination of CKs, which are critically important from the perspective of active social participation and social inclusion, through bibliometric analysis is intended to fill this gap in the literature. Therefore, this study differs from previous reviews by not merely offering a thematic synthesis but by revealing the structure, evolution, and main actors (authors, institutions, countries) of the field based on the bibliometric data of all relevant published articles. The study's methodology involves analyzing a large cluster of articles obtained from the Web of Science and Scopus databases using various bibliometric techniques, including co-citation analysis, collaboration network analysis, and cluster analysis. This analysis will make it possible to deter-

mine the current state of knowledge in the community kitchen field, the progress made, and to identify research gaps suggesting directions for future research.

- **RQ1:** What is the publication trend in the community kitchens literature over the years?
- **RQ2:** Who are the most productive institutions and which countries are the most active in community kitchens literature?
- **RQ3:** Who are the most collaborative authors in the community kitchens literature?
- **RQ4:** What are the widely used themes in the community kitchens literature?

1. Conceptual Framework

Scholarly research into community kitchens highlight the multidimensional characteristics of these initiatives. The literature indicates that these kitchens possess conceptually distinct structures; however, they fundamentally depict environments in which individuals collaboratively prepare and/or share food, yielding social benefits (Tarasuk & Reynolds, 1999). Structural variation in community kitchens is evident (Engler-Stringer & Berenbaum, 2005), with literature suggesting that this diversity aligns with organizational models: Some kitchens are organized by the community for collective gathering and cooking, while others operate as social enterprises, employing specific paid staff who are also community members to prepare and distribute meals at no cost (Sahyoun et al., 2019). These kitchens can be organized under the umbrella of a local organization or as individual neighborhood-based initiatives (Bezerra et al., 2025). Within this scope, collective kitchens are a subset characterized by pooling resources and labor to produce large quantities of food (Engler-Stringer & Berenbaum, 2007; Tarasuk & Reynolds, 1999). In this study, however, community kitchens are framed broadly to encompass all formations that provide community-based food production and sharing with a focus on social benefit, regardless of their structural and organizational differences.

One of the fundamental functions of these kitchens is to seek solutions to food insecurity. Bezerra et al. (2025) state that these kitchens provide spaces that revive a strong tradition of self-organized crisis intervention (such as during pandemics, hunger, or economic crises) while seeking solutions to this problem. The contributions of CKs extend beyond addressing food security alone, reaching other areas of life, from supporting the diets and nutrition of disadvantaged groups to contributing to positive family health outcomes (Bezerra et al., 2025). Engler-Stringer and Berenbaum (2007) noted that the contribution of these kitchens to food security is not limited to just quantity and quality but also includes social and psychological dimensions such as dignity and acceptability. This is because individuals in these kitchens are not passive recipients but secure their own well-being by producing value or belonging to a community. Furthermore, it was found that these kitchens contribute to qualitative food security by developing members' skills in cooking from scratch and incorporating greater variety into their diets (Engler-Stringer & Berenbaum, 2007).

Collective spaces, such as communal kitchens are valued for fostering empathy among people and promoting social inclusion (Andriessen & van der Velde, 2024). Beyond the benefits generated by community kitchens within the scope of food security, one of the most prominent themes in the literature is their function in social inclusion and non-stigmatization. Instead of encouraging reliance on emergency food assistance (soup kitchens, food banks, etc.), these kitchens work to strengthen the resilience of people who are facing food insecurity and social isolation (Engler-Stringer & Berenbaum, 2005). They achieve this by involving participants in the formation. Through their participatory and self-help characteristics, these initiatives demonstrate that individuals can move away from traditional "coping behaviors" such as accepting charitable food aid, that they are "not stigmatized", and that they find happiness in this process (Engler-Stringer & Berenbaum, 2007). Agarwal (2022) reported the notable finding that beneficiaries in collective kitchens enjoy the same meal as a direct expression of solidarity and equality, unlike in soup kitchens where they might feel passively role-assigned and humiliated. As noted in the systematic review by Iacovou et al. (2013), the general consensus in the literature is that these kitchens reduce participants' social isolation. The same review indicated that CKs aim to empower individuals, and this empowerment is the cornerstone of social inclusion (the feeling of self-sufficiency) (Iacovou et al., 2013). This dignity and self-respect are also supported by economic benefits. The monetary savings provided by the kitchens are a means toward the social inclusion of low-income groups. This saving supports the inclusion of these groups more firmly into society by increasing economic autonomy, psychological well-being, and social dignity (Engler-Stringer & Berenbaum, 2007).

The emphasis on self-help, agency, and autonomy -which forms the basis of social inclusion and is frequently underlined in the literature- extends to political inclusion and participatory democracy. For example, de Waardt and Ypeij (2017) noted in a study that a distinguishing feature of these collective kitchens is their self-governing nature. In their study, it was observed that through these kitchens, women learned management skills, took responsibility, and spoke up for themselves; their confidence in solidarity relations and joint action increased. Members viewed their organizations as a learning environment for all kinds of practical skills and increased their awareness of their rights as citizens, women, and victims. Ripat (1998) found that as a result of participation in CKs, individuals became more willing to participate in public life. Cordero et al. (2026) state that these spaces facilitate access for the poor to political party representatives or government officials and are areas where social norms circulate. In environments of informality and precarity, the kitchen managers act as "social connectors", linking residents to services such as state health clinics (Cordero et al., 2026). Kitchen managers provide information flow to help citizens navigate complex state bureaucracy (Cordero et al., 2026). This indicates that in cases where the formal health system or social services fall short, these tight networks intervene to support individuals in crisis. Bezerra et al. (2025) also emphasized that kitchens are spaces where leadership skills are learned, social connections are encouraged, and community empowerment is fostered. Furthermore, de Waardt and Ypeij (2017) asserted that these kitchens struggle for participatory democracy and political participation, and beneficiaries become active subjects claiming rights against the state.

In addition to these advantages, the connection between community kitchens and cultural heritage is rooted in the essence of food preparation. Cooking is a cultural tradition that transmits recipes, techniques, and knowledge through generations. Sutton (2001) characterizes this phenomenon as "embodied apprenticeship", wherein culinary knowledge is conveyed through the collaborative act of cooking. While centered on preserving local food traditions in rural Italy instead of community kitchens, it illustrates that collective cooking fosters cultural transmission and enhances participants' sense of belonging. Abram et al. (2025) similarly note that grassroots kitchens, although overtly political, cultivate "a sense of belonging and mutual aid" through communal cooking. This underscores the kitchen's function as a communal platform for inclusive, community-oriented heritage processes.

In this context, the literature shows that the collaborative and friendly atmosphere created by community kitchens is of vital importance for breaking social isolation and increasing social capital (Iacovou et al., 2013). Engler-Stringer and Berenbaum (2005), in their literature review, stated that CKs provide social support networks and help participants see that others are experiencing similar challenges. These kitchens provide a space for friendship for communicating with others and sharing each other's problems, not just for cooking (de Waardt & Ypeij, 2017). This type of cooperation creates spaces for mutual interaction and human connection, affecting the social lives of both those receiving and those preparing the food (Bezerra et al., 2025), and emphasizes the importance of communal (shared) relationships. Ibrahim et al. (2019) highlighted that CKs are as an effective tool for breaking down intergroup prejudices and reducing social tensions, enabling individuals from different cultural and religious backgrounds to spend long periods together around a common goal. They noted that the collaborative and friendly atmosphere offered by these kitchens strengthens social cohesion by softening the boundaries between different social groups and increases participants' empathy toward disadvantaged groups. In the context of migrants, these kitchens are an important tool for integration and inclusion. Agarwal (2022) reported the notable finding that CKs help new migrants learn the food culture of their new countries and integrate into society to increase participation. Ibrahim et al. (2019) emphasized that CKs are effective in reaching disadvantaged groups such as low-income families, people with disabilities, and migrants. The equal distribution of food, regardless of background, rebuilds individual agency and community consciousness among refugees, demonstrating that the kitchens are an effective tool in combating social exclusion and fostering group solidarity (Ibrahim et al., 2019). Finally, Sahyoun et al. (2019) show that a CK model -designed as a social enterprise providing economic contributions to refugee women- creates a safe environment for solidarity that breaks social isolation, outlining a roadmap for providing a supportive network in addition to contributing to poverty reduction.

These reviews on community kitchens reveal the conceptual framework, the multidimensional social benefits, and the empowerment mechanisms in the field. However, they reinforce the need for a comprehensive analysis that structurally demonstrates the thematic development, scientific networks, and main actors (country, institution, author) of this literature.

Therefore, the current study uses bibliometric analysis tools to numerically map the themes and concepts identified in the literature. Bibliometric analysis aims to classify the knowledge in the community kitchens literature objectively and identify existing gaps by using metrics such as article productivity (RQ1 and RQ2), collaboration networks (RQ3), and thematic density (RQ4).

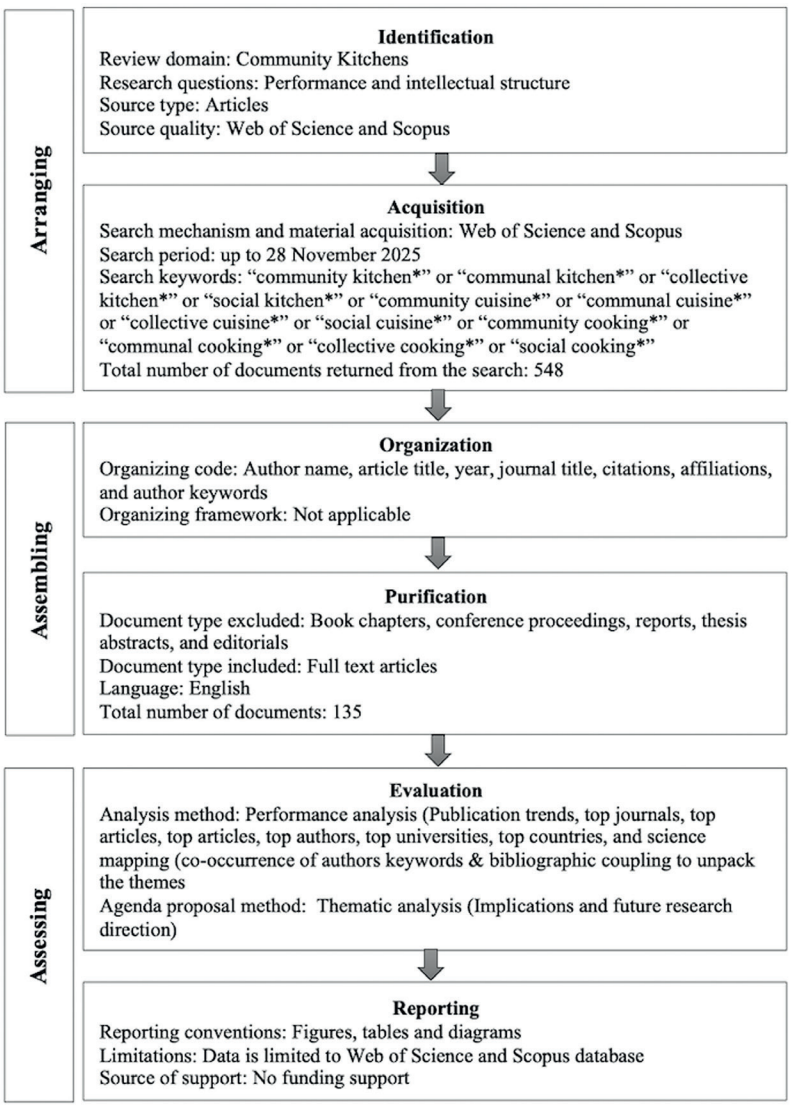
2. **Method**

This study aims to determine the actual state and advancements in knowledge on community kitchens, while also identifying knowledge deficiencies that suggest directions for future research. Research indicates that progress in literature occurs when findings are logically substantiated by prior studies (Kumar et al., 2020). Review papers systematically synthesize and evaluate previous studies within a discipline to explain discrepancies in results, therefore offering current knowledge, pinpointing research gaps, and suggesting paths for future study (Paul & Criado, 2020). Bibliometric analysis, which this study used for its literature review, is a type of domain-based review that typically consists of two parts: Science mapping and performance analysis (Donthu et al., 2021). Expanded scope, improved detail, reduced bias, and visual representation are the four main benefits of this approach to analysis (Byington et al., 2019).

The articles in Web of Science and Scopus databases are analyzed using bibliometric analysis, including co-citation analysis, collaboration network analysis, and cluster analysis. The study focuses on including articles published in English in peer-reviewed journals concerning community kitchens up to the year 2025. The literature review was conducted between 21-28 November 2025. To expand the scope comprehensively, articles published in journals across various disciplines are examined. Only full-text articles published in peer-reviewed journals are included to ensure a focus on high-quality studies. Exclusions are made for publications including book chapters, conference proceedings, reports, thesis abstracts, and editorials. To access publications in journals with a significant global impact factor, searches are conducted in the Web of Science and Scopus databases utilizing the keywords. Compared to other digital sources like Web of Science, Scopus, a leading search engine for academic outputs, includes a larger number of journals and more recent publications (Chadegani et al., 2013). Synonyms and alternative terms within each category were extracted from contemporary literature. Through this examination, the following terms were identified: “community kitchen*” or “communal kitchen*” or “collective kitchen*” or “social kitchen*” or “community cuisine*” or “communal cuisine*” or “collective cuisine*” or “social cuisine*” or “community cooking*” or “communal cooking*” or “collective cooking*” or “social cooking*”. The search terms are examined in the title, abstract, and keywords to comprehensively define the relevant literature. Considering that publications related to community kitchens are multidisciplinary, which may have the practical consequences, a filtering process was implemented to maintain relevance to our research question, involving independent reading of abstracts by all authors. At this point in time, it is crucial that the research terminology employed comprehensively encapsulates the pertinent literature while minimizing extraneous coverage (Pickering & Byrne, 2014).

Following the initial application phase, a total of 548 articles were acquired. Subsequently, publications present in both databases that were not in English were eliminated. Furthermore, studies were rigorously analyzed to reach a conclusive determination regarding the inclusion of each article, resulting in the exclusion of those with uncertain research methodologies, indistinct findings, and those unrelated to the social dimension of the community kitchen. Upon reviewing the abstracts, it became essential to examine the full texts to perform a more comprehensive analysis of the research topics, methodologies, and findings, thereby refining their definitions. During this process, publications for which full texts were inaccessible due to the absence of database subscription were excluded. In conclusion, the 135 articles obtained were analyzed. The SPAR-4-SLR protocol was employed to identify articles for inclusion in the review and to establish a database of relevant papers. This screening process is shown in Figure 1.

Figure 1
The SPAR-4-SLR Protocol



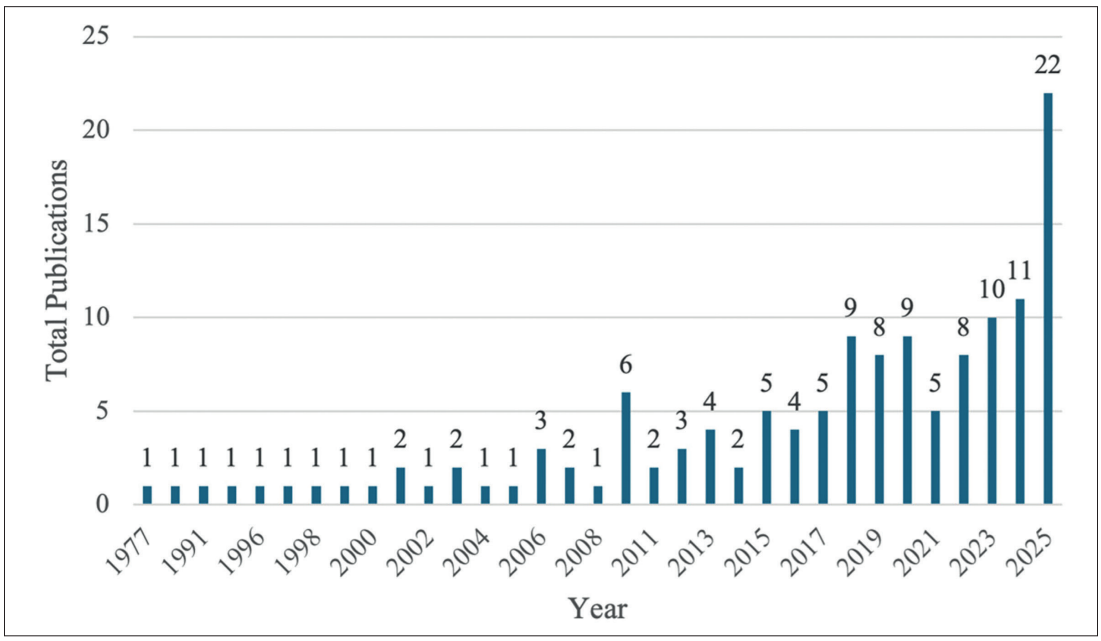
Paul et al. (2021) present the SPAR-4-SLR protocol, a structured framework for systematic literature reviews comprising three sequential stages -assembling, arranging, and assessing- each subdivided into two sub-stages. This protocol aims to produce cutting-edge insights and encourage future research initiatives through clear, rational, and well-founded methodologies. The authors advise against altering the protocol, as such modifications may compromise its rigor, efficiency, and efficacy.

The whole dataset was generated using Microsoft Excel, including the author, article title, publication year, journal, keywords, and citations. However, performance analysis and science mapping were carried out using the R bibliometrix software package program, namely the Biblioshiny version in R Studio (Aria & Cuccurullo, 2017). As part of this analysis, the articles were categorized thematically according to the main topic being researched, and the key characteristics of each article were recorded. The screening and preliminary review processes for the articles were carried out between 21-28 November 2025. Subsequently, studies such as examining the obtained full texts, data recording, and analysis were conducted.

3. **Findings**

The current study analyzed the performance of the CKs field to ascertain publication trends and other performance-related metrics. To ensure the article's clarity, information concerning the most contributing journals, authors, institutions, and countries was included. These are clarified in detail below. The distribution of articles obtained from searches using the domain of community kitchens in the Web of Science Core Collection and Scopus databases by year is shown in Figure 2.

Figure 2
Publication Trend over Years



As seen in the figure, there is an increase in studies over the years. The number of articles, which was one until the year of 2000, increased to 11 in 2024. In 2025, this increase doubled compared to the previous year; a total of 22 articles related to CKs were published in both databases. The journals were analyzed to ascertain the frequency of publications related to CKs, specifically to identify which journals make the most significant contributions to this field. Table 1 presents the findings, including the article and citation numbers.

Table 1
Top Contributing Journals to CKs Domain

Rank	Journal title	Number of articles	Citations
1	Canadian Journal of Dietetic Practice and Research	6	115
2	BMC Public Health	4	85
3	Gender Place and Culture	3	39
4	Plos One	3	15
5	Public Health Nutrition	3	93
6	Appetite	2	68
7	International Journal of Consumer Studies	2	53
8	Journal of Nutrition	2	52
9	Journal of Agriculture Food Systems and Community Development	2	37
10	Health Promotion Journal of Australia	2	26

Articles related to CK domain have been published in a total of 109 different journals. Table 1 indicates that the highest number of articles (6) on the current topic has been published in the Canadian Journal of Dietetic Practice and Research, which has received 115 citations. This is followed by the BMC Public Health with four articles and 85 citations. The table reveals that the majority of the journals pertain to the healthcare field.

Figure 3
Collaboration Network of CKs Domain

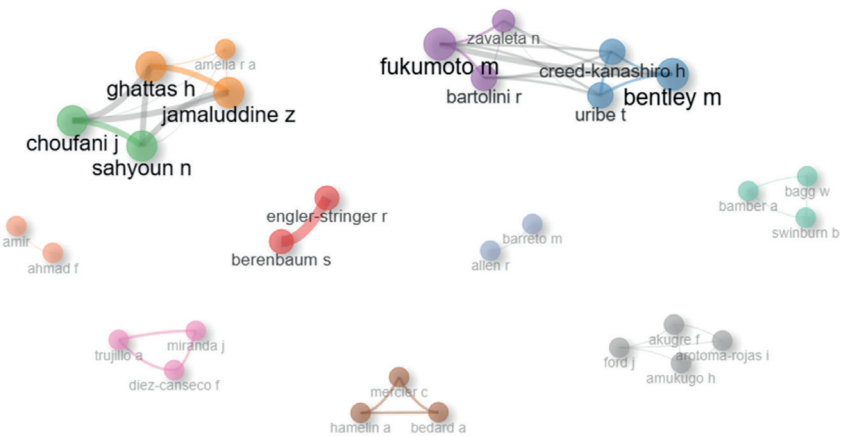


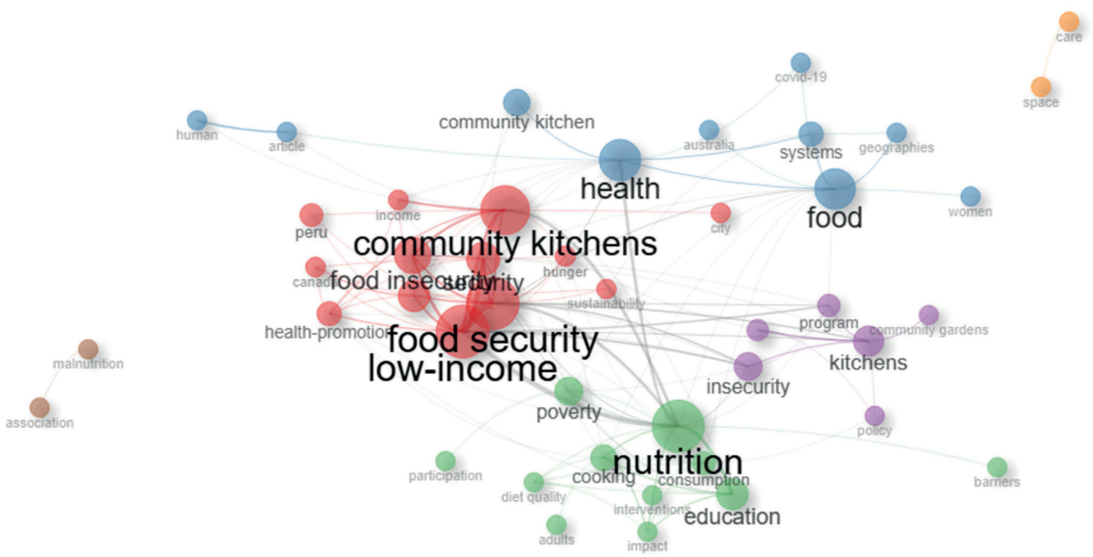
Table 2 shows contributing authors in this field. Table presents the 11 most productive researchers based on their article count and total citations for their CK studies.

Table 2
Top Contributing Authors to CKs Domain

Rank	Author	Number of articles	Citations
1	Engler-Stringer, R.	4	75
2	Berenbaum, S.	4	75
3	Fukumoto, M.N.	3	52
4	Creed-Kanashiro, H.M.	3	52
5	Miranda, JJ.	3	47
6	Bernabe-Ortiz, A.	3	47
7	Sahyoun, N.R.	3	29
8	Ghattas, H.	3	29
9	Choufani, J.	3	29
10	Masterson, A.R.	3	29
11	Jamaluddine, Z.	3	29

Among 471 authors, Rachel Engler-Stringer and Shawna Berenbaum are the top contributing researchers ranked by their number of articles and citations. The remaining eight authors possess equal article counts, yet exhibit varying citation numbers.

Figure 4
Keyword Co-occurrence Network of CKs Domain



The author keywords, which are crucial for highlighting the domain of research concentration and listing them alongside similar articles in the field, are shown in Figure 4. Among 524 keywords, the most frequently used ones, apart from searches conducted in databases, are listed as follows: Food security, food insecurity, food banks, poverty food and nutrition. These keywords show parallelism when analyzed in relation to the health publications in which they were published.

Table 3 provides a descriptive summary of the productivity, influence, and authorship structure of CKs across various variables. Analysis indicates the inclusion of 129 articles and 6 reviews. The NPC indicates that 80.75% of the research domain, represented by 135 total publications (TP), is highly influential. The CKs domain has been analyzed in an average of two articles per active year. The CKs domain has been cited 1683 times in the academic community within the period from 1977 to 2025. TC/TP denotes that the average citation frequency for each CKs domain article is 12.47 times. The table indicates that 75% of the articles are co-authored. There are thirty-three studies with a single author.

Table 3
Publication and Citation Statistics of CKs Domain

Measures	Metric
Productivity statistics	
Total Publications (TP)	*135*
Number of publications cited (NPC)	*109*
Number of active years (NAY)	*70*
Productivity per active year (PAY)	*1.93*
Influence statistics	
Total citations (TC)	*1683*
Cites per publication (TC/TP)	*12.47*
Cites per cited publication (TC/NPC)	*15.44*
Average cites per active year (TC/NAY)	*24.04*
Authorship structure	
Sole-authored article (SaA)	*33*
Co-authored article (CaA)	*102*
Authors in total publications	*471*

When the distribution of articles based on research design was examined, it was found that qualitative analysis was used in 64,44% (87) of the studies, while quantitative analysis was applied in 24,44% (33) and mixed methods 11,12% (15). Here, it can be seen that the vast majority of the the vast majority of the studies used qualitative methods.

The study includes a research question regarding which country exhibits the highest productivity in the CKs research. Table 4 shows the distribution of articles according to the universities, while Table 5 presents the countries in which the studies were conducted.

Table 4
Top 10 Contributing Universities on CKs Domain

Rank	Institution/University	Number of articles	Citations
1	University of Montreal, Canada	7	145
2	University of Toronto, Canada	5	137
3	Laval University, Canada	4	80
4	Monash University, Australia	4	74
5	American University of Beirut, Lebanon	4	40
6	Michigan State University, USA	3	75
7	University of Saskatchewan, Canada	3	67
8	University of Sydney, Australia	3	47
9	Universidad Peruana Cayetano Heredia, Peru	3	34
10	University of Maryland, USA	3	29

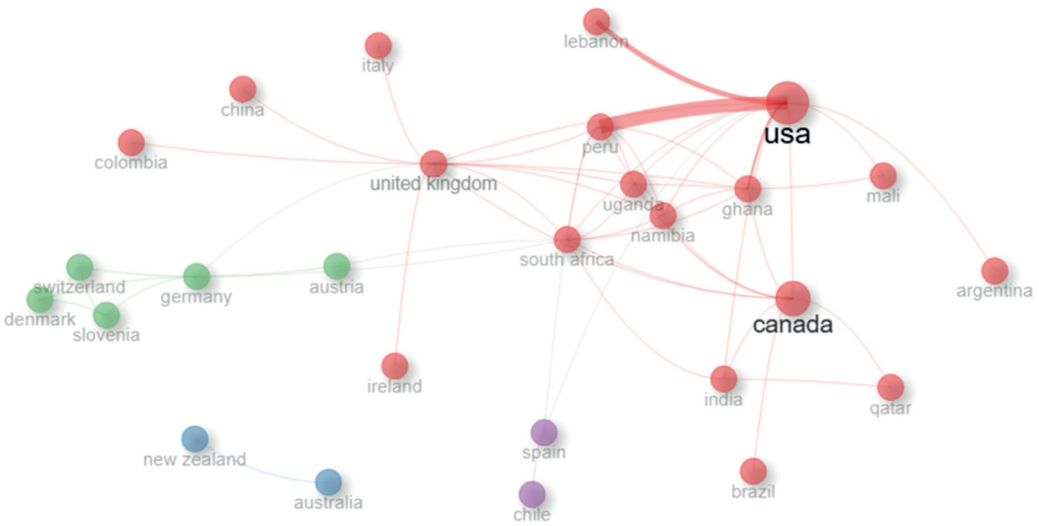
Among 182 institutions, the article distribution shows that the University of Montreal is the most productive university in the CK domain. (no. of articles=7; citations=145). This is followed by University of Toronto (no. of articles=5; citations=137) and Laval University (no. of articles=4; citations=80).

Table 5
Top 10 Contributing Countries on CKs Domain

Rank	Country	Number of articles	Citations
1	*United States of America*	*27*	*371*
2	*Canada*	*26*	*612*
3	*Australia*	*13*	*209*
4	*United Kingdom*	*13*	*92*
5	*India*	*11*	*144*
6	*Peru*	*7*	*86*
7	*Brazil*	*5*	*15*
8	*Germany*	*4*	*27*
9	*Lebanon*	*4*	*40*
10	*Ireland*	*3*	*44*

The research was contributed by scholars representing 35 different countries. The USA (20%) and Canada (19.26%) are the foremost nations in article production (see Table 5). This is followed by Australia (9.63%), United Kingdom (9.63%), and India (8.15%). Five countries (USA, Canada, Australia, United Kingdom, and India) constitute about fifty percent of the overall productivity in the CK domain. Nineteen countries have authored a single article. It is worth noting that Engler-Stringer's works have significantly positioned the University of Montreal and Canada as the most productive institution in the domain of CK. As seen in collaboration network among countries (see Fig. 5), the USA, Canada, and the UK are the most collaborative nations. While Australia ranks as the third most productive country in the domain of CKs, its collaboration network is notably weak.

Figure 5
Collaboration Network among Countries



The thematic network analysis assessed the distribution of articles by primary field, identifying the topics of greatest focus in the studies. The studies were categorized into five primary clusters: (1) Social cohesion, (2) health & nutrition, (3) food security, (4) education & skill development, and (5) political action. Social cohesion represents the most substantial cluster, containing 70 publications that examine communal cooking and eating as foundational elements for community engagement, fostering care, and providing social infrastructure. The cluster of health and nutrition comprises 35 articles that address nutritional status, chronic disease management, including diabetes, and obesity prevention. The cluster of three on food security comprises 15 studies that examine famine relief, hunger alleviation, and crisis management, including responses to COVID-19. The education and skill development cluster emphasizes cooking classes, vocational training, and pedagogy in the kitchen context, comprising eight articles. The final cluster, political action, comprises seven studies that examine policy arrangements, organizational structure, urban food democracy, and systemic transition.

4. **Conclusion and Discussion**

Reviewing the literature on a domain can provide a unique opportunity to understand and explore the scientific field (Kumar et al., 2024). The aim of this study is also to discuss the current literature on community kitchens and develop recommendations for future studies. Iacovou et al. (2013) suggest that comprehensive research is necessary to enhance understanding of CK's true efficacy and to achieve more convincing outcomes.

This is the first bibliometric review exploring the contribution of community kitchens in the frame of social inclusion. The analysis revealed that the most articles related to CKs were published in 2025, with a rapid increase in 2018, and that qualitative analysis was largely used in the articles While earlier syntheses, such as those by Engler-Stringer and Berenbaum (2005), indicated that research was limited in scope, our bibliometric approach offers a more systematic and comprehensive overview of the field's expansion. However, the significant reliance on qualitative designs (64.44%) remains. This indicates that researchers continue to emphasize the "human experience" of participants, while also underscoring the need for more quantitative or comparative data to assess national or global impacts.

The findings indicate that most of the journals are related to the healthcare sector. However, the dominance of "Social Cohesion" as the largest thematic cluster indicates a clear evolution in the field. This shift suggests that community kitchens are increasingly interpreted as social infrastructures rather than simple food-aid programs, highlighting their role in fostering community engagement, support networks, and resilience among residents. These results link to more general discussions about resilient communities, inclusive cultural heritage, and culinary heritage. The predominance of social cohesion indicates that academics are beginning to see CKs as places where food-related cultural knowledge is actively shared and practiced rather than just as food aid programs. This is consistent with the notion that heritage encompasses daily knowledge and living practices. Discussions about food heritage, where cooking together is seen as a way to transmit cultural identity, also reflect the shift from health to social cohesion (D'Andrea & D'Ulizia, 2023). Additionally, our discovery that CKs are seen as social infrastructures lends credence to discussions about community resilience, wherein shared practices promote inclusivity and strengthen social networks.

Alongside these thematic trends, our study maps the key actors driving the literature. Identifying leading researchers helps academics and scholars in selecting relevant authors on the subject of community kitchens. Furthermore, while Rachel Engler-Stringer and Shawna Berenbaum are the most prolific authors, Canada where these writers are based and the United States are the foremost countries in article production. This concentration suggests that much of the current evidence is based on specific regional contexts, which may limit the generalizability of the findings to other areas or populations. To achieve a more comprehensive understanding of the field, future research should incorporate data from a wider variety of geographical and socio-economic settings. Keywords such as food safety, food insecurity, and nutrition exhibit correlations when examined in conjunction with the health publications in

which they are featured. The findings reveal that the studies are multidisciplinary and co-authored. The majority of studies conducted by co-authors signifies the necessity for diverse disciplines, expertise, and experiences to converge within the domain. According to Agarwal (2022) comprehending the function of community kitchens is crucial regarding their perception and interpretation by various actors within the gastronomic field.

The findings provided in this article could help researchers, practitioners, and policymakers in outlining the fundamental topics associated with community kitchens and in fostering a coherent development of the concept. The study's results elucidate potential enhancements to address the deficiencies of the CK approach. Researchers may select topics of interest in the international literature, whereas practitioners can ascertain the activities associated with CKs and recognize their deficiencies. It is crucial for policymakers to achieve social inclusion alongside further advancements in CKs.

This study is limited to English-written journal articles obtained from searches related to community kitchens in the Web of Science Core Collection and Scopus databases. In future studies, in addition to these databases, Google Scholar, EBSCOhost, etc. could also be employed. In addition to the journal article, the publication could also include studies such as conference papers, theses, book chapters, etc. Comprehensive quantitative research should be conducted to determine the impact of collective kitchens across all clusters. The thematic analysis discusses significant themes including social cohesion, health and nutrition, food security, education and skill development, and political action within the CK domain. It will function as a reference for future contributors to the field.

A constant gap in the literature pertains to the integration of local, community-based efforts into urban planning. Future studies should examine how policies and regulations either obstruct or facilitate the transition from transient community kitchens to enduring democratic food systems. Several studies highlight the growing importance of information and communication technologies in food sharing. More research is needed to find out how digital platforms help community kitchens grow. Researchers could explore whether digital food-sharing apps enhance social inclusion. There is a research opportunity to connect community kitchens with the circular economy. Future research may examine the logistical and health implications of utilizing surplus produce on a broader scale, especially regarding how these kitchens can generate income and mitigate food waste. Research on cultural groups and diabetes indicates that universal nutrition education is ineffective. Future research ought to transition towards nutrition education. This entails examining the tension between vocational training and culturally attuned wellness, defining the particular social elements of communal cooking that foster enduring behavioral changes in chronic disease management. Engler-Stringer and Berenbaum (2005) claim that community kitchens provide a distinctive platform to promote, assist, and/or shape dialogues on diverse subjects pertaining to skill enhancement, nutrition, health, community organization, politics, and the origins of poverty.

Longitudinal studies are essential to monitor the life cycle of community kitchens. Future research should investigate the survival of these organizations post the cessation of initial crisis-related funding, such as COVID-19 relief or emergency grants, and identify which organizational structures, such as decentralized extension centers, most effectively promote long-term financial and social sustainability. The research suggests that kitchens serve as more than mere food sources; they act as safeguards against carelessness and precariousness. Future research may establish metrics to quantify social care as a concrete outcome of community kitchens.

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FROM MOVEMENT TO MEANING: THE ROLE OF HERITAGE IN BELONGING, PRESENCE AND MIGRANT (SELF)INTERPRETATION

Svetlana KONDRATYEVA

FROM MOVEMENT TO MEANING: THE ROLE OF HERITAGE IN BELONGING, PRESENCE AND MIGRANT (SELF)INTERPRETATION

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Abstract

The article examines the role of heritage in the formation of a sense of belonging among migrants in their new place of residence, with particular attention to non-verbal, sensory, and embodied dimensions of this process, as well as to opportunities for sense-making through creative practices. It analyzes specific tools that can be used by heritage institutions working with migration and social inclusion, such as freewriting and freewalking, the construction of rituals, creative mapping, psychogeographic practices, and the creation of participatory exhibitions. Material was collected between 2022 and 2025 during various creative workshops, lectures, and guided tours held in the cities of Novi Sad, Belgrade, and Subotica (Serbia), as well as online. The methods incorporated participant observation, analysis of produced materials, group and individual interviews, testing of hypotheses regarding effective heritage interpretation, and autoethnographic approaches. The findings indicate that in the early stages of migration, social inclusion processes should incorporate practices aimed at enhancing presence and a sense of "here and now." Heritage contributes most effectively to homemaking when it becomes embedded in routine, often unnoticed everyday practices. During this period, heritage is actively reinterpreted according to migrants' immediate needs and challenges, while historical narratives and factual knowledge may play little to no role. Consequently, heritage institutions must be prepared to engage with non-canonical interpretations and personal narratives.

Keywords

Migration, *Sense of Belonging*, *Homemaking*, *Heritage Interpretation*, *Embodiment*, *Affective Landscapes*, *Psychogeography*, *Sensory experience*

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1. **Why Heritage and the Body Matter: Context and Theoretical Framework**

According to the United Nations, the number of international migrants worldwide reached approximately 304 million in 2024, and processes of mobility continue to intensify each year (United Nations, 2024). As a result, the heritage sector increasingly has to engage with the notion of Otherness, with people experiencing migration-related crises, constructing new identities, and forming a sense of belonging. These processes often unfold through heritage connected to migrants' new places of residence.

Over the past four years, I have had a unique opportunity to be involved in processes of homemaking and the development of a sense of belonging among immigrants in three simultaneous roles. First, I myself changed my country of residence not long ago. Today, I would describe this experience as a form of labor migration combined with cultural volunteering (although in everyday conversations I still call it simply long-term travel). In 2022, however, I had only a carry-on suitcase, a backpack, and a one-way ticket which, through several countries, eventually brought me to Serbia. Being professionally connected to the heritage field, I observed my own process of settling into a new country through the lens of Heritage Studies. In this process, I acted simultaneously as both the subject and the object of research, employing methods of autoethnography.

Second, after settling in the city of Novi Sad, I observed the waves of migration that Serbia has experienced in recent years (Dnevnik, 2025; Euronews Serbia, 2025). I actively interacted with migrants both in informal everyday contexts and in more institutionalized formats, such as workshops, lectures and volunteering guided tours in museums. I sought to understand how migrants perceive the historic city center and local museums, and what role heritage plays in their processes of integration. I was also interested in identifying which tools might make these processes more effective, and could serve not only as supportive but

also as research-oriented instruments. To this end, I developed my own creative tools, first testing them on myself and then offering them to the target audience, observing the outcomes through methods of participant observation.

It was important for me to address these questions from the paradigms of embodiment and mobility, primarily due to my own research interests. Prior to my relocation, my focus lay on site-specific dance, performance, and theater in heritage venues. After moving, I was not yet ready to continue working directly with this topic. However, approaching heritage and migration through the lenses of embodiment, movement, and sensory experience appeared highly productive. Heritage research increasingly conceptualizes heritage as a performative and embodied process (Smith, 2006, 2021), expands the understanding of tourism beyond visual perception (Urry, 2002), and pays growing attention to queer and female bodies as well as disability (Palmer & Andrews, 2020). The editors of the volume Cultural Heritage and Mobility from a Multisensory Perspective seek to synthesize the impact of globalization and mobility on heritage and propose a classification of three broad types of movement: Movement to heritage (e.g., tourism or pilgrimage), movement with heritage (e.g., transporting objects or continuing traditional practices through migration), and movement through heritage (e.g., dancing, playing musical instruments, tactile engagement with historic stone surfaces) (Banaszkiewicz & Nikielska-Sekuła, 2025).

Anthropologists likewise emphasize the role of the senses in human life and in interactions with the environment (Howes, 1991; Ingold, 2000). Of particular interest is the SENSOTRA project, which developed the methodological approach of sensobiographic walking. This is "an ethnographic research method which offers a plethora of possibilities for researching the embodied and site-specific emergence of sensory remembering and experiences" (Järviluoma & Murray, 2023, p. 6). The project aimed to understand how sensory experiences—namely ways of feeling, touching, hearing, smelling, and seeing European cities—have transformed over the past 50 years (Järviluoma & Murray, 2023, p. 123). It involved walks conducted by local residents of different generations, as well as by locals and migrants together with researchers, with a strong emphasis on sensory experience and memory.

Migration studies also highlight the performative, non-verbal, and sensory dimensions of belonging. For example, Marcelo Ennes, drawing on Bourdieu's work, conceptualizes migrants' corporeality through the notions of hexis and habitus and identifies two modes of forming relationships between the agent and their migration trajectory. The inherited mode is shaped within the family, social class, and culture of origin, while the strategic mode involves a deliberate restructuring and reinterpretation of bodily practices in a new environment, a process in which stigma may be transformed into an emblem (Ennes, 2020). To explore migrants' relationships with their new environments, researchers increasingly employ walking interview methods (Gubrium & Colomer, 2025; Luraschi, 2021). These studies emphasize the importance of subjective sensory and emotional experiences emerging from everyday routines, movements, and interactions with place (Gubrium & Colomer, 2025; Mitchell, 2023), as well as the fact that practices of emplacement in public spaces can generate unexpected

interpretations and counter-narratives (van Liempt, 2023). At the same time, the city is most often examined as a whole. This observation motivated me to focus more specifically on the role of historic environments and individual heritage sites in these processes.

Finally, particular attention should be paid to the book "Embodied Research in Migration Studies" by Elena Vacchelli (2018). The author examines embodied practices (for example, gardening, cooking, collage-making, digital storytelling, and many others) as a feminist and decolonial tool. Creative and participatory approaches are seen as overcoming representational and textual traditions in the social sciences.

The researcher also emphasizes the role of third-sector organisations, which carry out embodied work through social practices that are both material and symbolic, and which often empirically collect material that proves useful for researchers' further work. The value of creative methods in working with migrants, according to the author, lies in the fact that they are less intrusive ways of discussing personal and sensitive issues and present the advantage of allowing research participants time to reflect on how to negotiate feelings, emotions, and what to disclose in a safe way (Vacchelli, 2018, p. 43).

2. **Methodology, Sample, and Ethical Considerations**

My research questions can be formulated as follows: How does heritage participate in the non-verbal and sensory aspects of migrants' formation of a sense of belonging in the city, and through which (creative) tools can these processes be supported and studied?

This study employs a retrospective qualitative research design based on observations, workshops, lectures, guided tours, and autoethnographic reflection collected between 2022 and 2025. The retrospective nature of the study stems primarily from the circumstances under which the material was collected. I began making my first notes and observations only two weeks after my own relocation. It is precisely at such an early stage of living in a new place that individuals face many significant challenges (as discussed at the beginning of each section of this article, especially Section 3). At the time, I sought institutional support in Novi Sad—an organisation that could support me or facilitate the work—but I was unable to find one. I did not feel confident that I had the capacity to conduct a full-scale, independent study; rather, I believed that such research could and should be carried out. Therefore, I began collaborating with NGOs, museums, and "third places" such as cafés, organising events there and collecting as much material as possible and carefully documenting everything I was able to do "here and now," with the intention of analysing it later (which I did in 2025, three years afterwards).

Thus, my activities can be described primarily as voluntary, social, and educational at the time they were conducted, and as research-oriented in retrospect. This experience resonates with the aforementioned observation by Elena Vacchelli regarding the role of the third sector and initiatives that were not initially positioned as research, but whose collected material may later prove valuable for researchers. In my case, the range of institutions extended beyond the third (voluntary) sector to include state cultural institutions and commercial actors related to

migrants' leisure activities. This, in turn, informed the article's focus on describing tools for working with migrants that can be employed by such institutions. I paid particular attention to the design of these tools and their relationship to the challenges faced by the target group, and through the examples I aim to demonstrate their research potential.

The primary formats within which I conducted my observations were workshops and lectures with discussions. Workshops were creative in nature and included free writing, free walking, photography, mental mapping, theatrical tools, and group discussions. Lectures were focused on the question of what heritage is and how people use the past in the present. Surprisingly, they generated a large number of comments and discussions specifically related to participants' recent experiences of encountering with the heritage of the "Other", and at times resembled open discussions more than formal lectures. I conducted offline events independently, while online events were co-created with my France-based colleague Elena Gordienko. From autumn 2022 to the present, I have conducted approximately five offline events in Novi Sad, four in Belgrade, one in Subotica, and four online events for a broader geographical audience. The number of unique participants in offline events was 13 in Novi Sad, 15 in Belgrade, and 3 in Subotica, respectively. The average number of participants in online events was 15. The average duration of events was 1.5–2 hours.

An additional research format consisted of volunteer guided tours organised in collaboration with two major museums in Novi Sad. In 2023, I volunteered at the Gallery of Matica Srpska, and since May 2025 I have been volunteering at the Museum of Vojvodina. My responsibilities included preparing guided tours in Russian, working with literature, and engaging in heritage interpretation and storytelling. At the first museum, tours were held approximately once every six weeks, while at the second they took place one to two times per month. The average number of participants was 20, and the duration was approximately 1.5 hours. Within this work, my focus was on the construction of storytelling and the interpretation of local heritage for newcomers. In addition, I gained valuable exhibition-related experience relevant to my research topic through participation in an event organised by the association Kulturanova within the Erasmus+ project aMUSEment (Kulturanova, 2023), which is also discussed in this article.

The audience with whom I interacted consisted mainly of Russian-speaking residents of Novi Sad who had moved to the city from other countries since 2022. That is, their length of stay in the city at the time of participation in the study ranged from several months to three years. Most of them were either employed themselves or had an employed life partner and did not have experience living in specialized refugee centers. At the same time, some had relocated for political reasons and did not feel safe; for others, Serbia was a second or even third country of migration, and many struggled to articulate concrete plans for the future (Survey Report, 2024, p. 6). Since, at this stage, my aim was not to conduct a comprehensive study of this audience but rather to select and test tools and practices, I did not collect full demographic data such as age, gender, or country of origin. Empirically, I can say that participants in the workshops and lectures ranged in age from teenagers to 50+, with 70–80% being women. In the guided tours, participants' ages started from 6+, as some adults brought their children,

even though the events were not designed for children and could be difficult for them to follow. There were two reasons for this: There were few events in the city about local heritage in a language accessible to the target audience, and in some cases parents simply had no one to leave young children with. The oldest participants in the tours were 60+, and the gender distribution can be very roughly described as 70% women and 30% men. My sample is relatively small for drawing broad conclusions; however, with further development and an increased number of participants, the approaches described here could be more actively employed as research tools and yield more robust results.

At all workshops and lectures, I stated that I hoped to conduct a full-scale study or write an article in the future—if time and capacity allowed. I also made clear that, should I proceed with this work, I would guarantee participants' confidentiality, seek approval for any quotations, and clarify whether individuals wished to be identified by name or preferred anonymity. Because these activities were initially organised as voluntary, social, and educational rather than as formal research, this consent process was conducted verbally rather than through written consent forms. During the retrospective analysis, all materials were handled in accordance with these ethical principles.

As I typically first tested each developed tool or practice on myself and only then introduced it to others, I will aim to preserve this logic in the following sections of the article. First, I will describe the challenge I sought to address or the question I aimed to answer. Then, I will present the tool itself. Next, using the method of autoethnography, I will reflect on how these methods helped me make sense of my own experience. Finally, I will discuss their application in group settings, drawing on methods such as experimentation, participant observation, short interviews, elements of focus groups and arts-based research.

3. **"What a Pity I Am Afraid to Feel Myself 'Here and Now'": Freewriting and Freewalking as Practices of Presentness**

> "I went to the store to buy pasta and sausages—always the same ones—because I did not have the cognitive resources to choose anything else. I stood there trying to remember why I had come to the store, and then what sausages even were. The neighborhood where I lived resembled my neighborhood back home, and sometimes, for a few seconds, I got lost and did not understand where I was, in which of the two cities," Olga recalls her first months in Novi Sad (personal communication, 2023).

Katrin, reflecting in her blog on three years of living in Berlin, notes that she still does not feel herself to be "here and now":

> "I walk through the streets of a new city, noticing pleasant cafés, parks, and benches, making mental notes for 'later'. I look with envy at green courtyards, armchairs, and lanterns on balconies, but I am never actually there. Even if I am physically present, I do not realize that it is me inside the picture: 'Here we are, here are my friends, we are sitting in a cozy place, talking and laughing.' What am I waiting for? When will my 'later' arrive?" (Dancing in the dark, 2023).

Both examples illustrate a common problem among migrants. Migration experiences often trigger psychological and somatic conditions such as acculturative stress, PTSD, depression, depersonalization, and derealization (Akiş, 2024; Staniloiu et al., 2010). Many of these conditions are linked to difficulties with presence: Individuals may feel disconnected from their bodies, emotions, and spatial surroundings. Beyond everyday practical and social challenges, this also affects their perception of heritage. It has been repeatedly demonstrated that people engage with monuments, landscapes, and museums through all their senses (Smith, 2021; Urry, 2002). However, individuals experiencing such states may temporarily struggle with this form of multisensory engagement.

In my own practice, I sought techniques that could function as a form of prevention against feelings of detachment and disorientation, helping participants to name their emotions and enter into a relationship with space. One of the most effective approaches proved to be the combination of freewriting and freewalking/flaneuring.

In general terms, freewriting can be defined as "an exercise in bringing together the process of producing words and putting them down on the page" (Elbow, 1973, p. 6). There are, however, multiple variations, including focused freewriting, where a topic, length, or time limit is specified. As a preventive practice against dissociation, focused freewriting can be directed toward sensory awareness: What sounds surround me in my new life? What bodily sensations make up my day? I decided, however, to move freewriting into the historic urban environment and combine it with walking through the city.

The exercise I developed required a sheet of paper and a clipboard or hard notebook, a pen, and the possibility of walking slowly in any direction for 30–60 minutes. Participants were encouraged to record any thoughts that came to mind, regardless of whether they formed coherent sentences, isolated words, or even interjections. The practice was close to the Situationist tradition and, on the one hand, enabled participants to see the city anew. On the other hand, freewriting introduced an element of spontaneity and helped participants notice their sensations in the "here and now."

I first tested this technique on myself at one of Novi Sad's main tourist landmarks—the Petrovaradin Fortress. At that time, I had been living in the city for only a few weeks, staying in a hotel at the foot of the fortress. I could not understand what I felt toward it, whether it was a pleasant or unpleasant place, or what significance it held for me. All of this constituted an ideal situation for the described exercise. I took a sheet of paper and began to walk.

In the first minutes, my notes consisted of places from previous life experiences that the fortress landscape evoked. The cobblestones reminded me of Vilnius; a tall ivy-covered wall of Gothenburg; a church ceiling of a Moscow metro station. I then climbed to a bastion overlooking the city. I looked for signs indicating whether sitting on the edge was allowed. Finding none, I sat down and continued writing. This time, the text formed a more coherent passage:

> "How does a city accept you?
>
> How can you tell whether it is kind or harmful? One of the answers is prohibitive signs. I am sitting now on the grass atop the fortress wall. I feel mixed feelings both about its symbolism and about my own insignificance. From afar, the Danube looks clean. For me, it is forever tied to 'The Blue Danube,' a piece I never heard but which Lora once told us about [Lora Guerra, widow of Italian screenwriter Tonino Guerra]. The piece connected her with Tonino, witnessed by Tarkovsky and Antonioni [film directors Andrei Tarkovsky and Michelangelo Antonioni]. What a pity that I am afraid to live. Afraid to let life pass through me, afraid to feel myself 'here and now,' afraid to feel. You are nobody and I am nobody; together we are almost a landscape" [after Brodsky, In the Mountains].

I climbed higher to the viewing platform, continuing to catch memories of landscapes and places I had seen before. Associations appeared on the page: Ivy resembled angel wings; an industrial chimney evoked an Italian campanile.

Yet a sense of dissonance persisted, and I began writing again. My thoughts were occupied by ongoing military conflicts, and the fortress reminded me of war. At the same time, I saw people relaxing on the viewpoint, taking photos for social media, and enjoying the view. I was searching for space for mourning, but at the same time understood that a place should not be bound forever to the meaning it had at the moment of its construction. Meaning emerges "here and now" through social practices (de Certeau, 1984; Lefebvre, 1991). I eventually enacted my desire for mourning by sitting alone on an old, peeling bench that looked distinctly non-touristic. After it I ended the experiment.

Analyzing both the experience and the resulting text, several patterns can be highlighted.

First, I tended to define new places through past landscapes. E. Pistrick points to the bidirectional nature of this process: "Just as present-day landscapes are perceived through the lens of memory, the landscapes of the past are also seen through the mirror of present-day reality and receive their value at a distance" (Pistrick, 2015, p. 80). Notably, the more I socialized and settled into the city, the less its landscapes reminded me of previously visited places.

Second, the technique enabled exploration of the historic city as an affective landscape (Anderson & Harrison, 2010; Berberich et al., 2013; Berberich & Campbell, 2015). My emotional and physical state significantly shaped the images that emerge on paper.

Both patterns were later confirmed during group workshops using this technique. During a workshop in the historic Almaški Kraj district, one participant sought stability and verticality by walking toward the church bell tower, while another, feeling physically unwell, interpreted the silk factory Svilara as a prison. Although such narratives may diverge from established interpretations and are often situational, documenting them is crucial. Naming emotions and states makes them workable, and with a larger sample, such documentation can reveal how migrant communities collectively perceive a place.

Finally, I would like to describe another short freewriting exercise that can be done with migrants who have lived in the city for at least six months, functioning as a continuation or complement to the previous one. It was developed together with researcher Elena Gordienko during a distributed online laboratory for people with migration experience. Participants were asked to write a letter to the city by completing two sentences: "You know, you look like..." and "I want...". The task resulted in two short paragraphs, after which participants were encouraged to decide where in the city they might leave the letter, symbolically "delivering" it to its addressee.

Since I did not use this exercise separately in offline events in Serbia, I will share only the autoethnographic component. My own text read as follows; I folded it into a paper boat and set it afloat on the Danube:

> "You know, you look like a place of refuge for thousands of foreigners. With a bear-like fortress at the top, with the waters of the Danube—shared by everyone and belonging to no one. With the calming greenery of parks and neighbors who invite you for coffee and end up bringing rakija as well. I want to stop feeling as if I live in Howl's Moving Castle and mentally 'ground' my home in your streets—or, precisely, my sense of home. And I really want not to miss you and your residents if or when I have to move on.
>
> Thank you for our relationship.
>
> *With love*,
> *Sveta*
> *18 December 2022"* (Author's personal archive, 2022).

The text shows that a sense of spatial disconnection persisted even after six months of living in the city, expressed through the image of Howl's Moving Castle from Hayao Miyazaki's animated film. At the same time, the perception of the fortress had clearly changed compared to the first weeks in the city. It was no longer a place associated with uncertainty of feeling. The image was inspired by my encounter with Đorđe Balašević's poem Novi Sad, in which the fortress is compared to a dragon—although, for me, the image of a bear felt somewhat cozier and calmer.

4. **Muscle Memory of the City: Sensory Routines, Heritage, and Urban Belonging**

Relocation is associated with the disruption of many forms of attachment, including everyday bodily and behavioral routines. These routines may consist of familiar sounds, smells, and tactile sensations. Even now, I frequently notice gaps between past and present sensory landscapes. Sitting in a café, I feel a slight vibration of the floor. "There must be a metro line under the building," I think—and immediately interrupt myself: "Wait, there is no metro here." In the morning, through an open window, I hear a sound resembling a shovel scraping asphalt. "They are clearing snow... No, wait— there is almost no snow here, and it is not cleared with shovels." While walking, the sound of birds unfamiliar from my home city reminded me that I am not at home city.

The importance of routine movement through the city is emphasized by Walthall (2015), who describes a performance in San Francisco in which the artists asserted: "Even in the face of our landmarks being built over, there is a… muscle memory of where we come from and which way we get home" (p. 229). Paraphrasing this statement, the process of homemaking can require forming a new muscle memory of the city.

Yet one can not only notice differences between sensory landscapes but also deliberately reintroduce particular sensations or micro-rituals into everyday life as a form of self-support. For me, such a ritual is the rustling of autumn leaves—especially maple leaves; for Olga, it is stepping onto a frozen puddle to hear the ice crack. These practices generate feelings of calm and nostalgia and create a sense that part of the past—and with it, part of one's identity—has been carried into the new place of residence. For this reason, I argue that institutions involved in supporting migrants or working with cultural heritage could make use of these practices. For example, they could take the form of guided informal conversations, the compilation of lists of possible embodied and symbolic "rhymes," and the collective performance of such actions. The method can function both as a diagnostic tool and as a way of regulating one's own emotional state.

It is also possible to attend to more complex structures of sensory routines—sensory routes. For example, for me, the first marker of settling into the city was the moment when I memorized the route to my place of residence so thoroughly that I could walk it while thinking about something else. Later, I realized that my mental image of Novi Sad had formed around my everyday route to work: Passing through passages and Dunavska Street; then Trg Slobode, where musicians always perform and where it becomes unbearably hot in summer; a bar with white dogs sitting on the steps; an underground passage where flowers are sold; and the narrow Jevrejska Street, where one has to dodge other pedestrians. I remembered every turn and the bodily sensations associated with it. Through the routine traversal of space, the commute became a kind of spinal column of my image of the city. When my workplace closed, during the first weeks without this route I experienced a genuine sense of disorientation. What was now important? What was frequent? Where were the vectors of my movement?

This prompted me to analyze the experience more closely. I recalled that shortly after relocating, I had participated in a guided city tour. We also walked along Dunavska Street, entered one of the passages, visited Trg Slobode, and saw the synagogue on Jevrejska Street. That is, my route to work passed by the same places I had encountered during the tour. However, there is a significant difference between these experiences of moving through the city and the role that heritage plays in them. Tourists' images of the city are structured around landmarks, and the significance, beauty, and symbolism of these places play a key role. By contrast, migrants' images are formed around routine routes. In my example of commuting, what mattered was not the fact that I had found a job—although this was undoubtedly an important part of integration. Rather, it was the repetitive, stable, predictable—and therefore stabilizing—experience within the historic part of the city that was extremely important and functioned as a connection to it.

The observations described above are further supported by another particularly effective tool—creative mapping. The exercise combined the technique of mental mapping with the creative renaming of toponyms. I started from the assumption that street names function as tools of commemoration—that is, as mechanisms for selecting and fixing what a community considers important and worthy of preservation. Migrants, however, often do not decode the cultural references embedded in street names associated with historical figures, dates, or events. I therefore invited participants to map places connected to their experience of the city and rename them in ways that were meaningful only to them. On my own map, the Danube appeared immediately. According to the rules of the exercise, I could not simply label it with its official name but had to invent my own. I called it "The Waters of Lethe," as at the time I often walked along the river reflecting on time, history, and the entanglement of hundreds of lives along its banks. As a final step, participants were asked to think about what they felt was missing in the city, imagine a corresponding urban object, and add it to the map as well.

When I used this exercise in workshops, I was convinced that it allowed participants, on a symbolic level, to claim a right to the city and to make their lived experience visible. The places, practices, and routes that appeared on the maps could be roughly divided into functional (work, home, a child's school) and supportive (a favorite café, a cosmetologist, or walking along central embankments while listening to music). Heritage sites were mostly mentioned within the second category. Importantly, the exercise helped not only to identify which heritage sites migrants were familiar with, but also to highlight which of them were genuinely woven into people's lives, as only such places could be meaningfully renamed. For example, one participant mentioned the clock on Petrovaradin Fortress but was unable to rename it. In contrast, the Cathedral of the Holy Name of Mary was mentioned as a meeting place with friends; Dunavski Park as a space for rest and walks with children; and Katolička Porta Square as a site of important conversations with a partner "and cheap pizza—the only kind we could afford at the time."

The observation of Gubrium and Colomer (2025) that "everyday movement and routines help individuals negotiate and redefine their attachments to place, memory, and identity, creating new narratives of belonging" (p. 2) was repeatedly confirmed through a creative mapping practice. Also, in summarizing the workshop experience, it should be noted that during the early stages of migrants' lives in the city, heritage appears to contribute to the formation of the urban image only insofar as it is embedded in everyday routines. In such cases, heritage becomes an invisible support structure. Its value lies precisely in the fact that everyday life unfolds within these places, thereby anchoring people in the city. Heritage may thus function as a background—but a background of critical importance for shaping the urban image, sustaining a sense of stability, and forming a new muscle memory of routine routes.

5. **"A Place That Looks Like Me": Psychogeography and "Incorrect" Interpretations of Heritage**

This tool began to take shape in December 2021, before my relocation. At that time, I travelled to Plovdiv to celebrate the New Year and, during a walk, climbed the central hill, Sakhat Tepe. There, I experienced a strong, irrational feeling that this place somehow… looks like me.

That evening, I tried to reflect on this sensation by writing:

> "Why did it feel today that the hill in Plovdiv looks like me? (This is actually an amazing feeling!). Indirect, winding, many possible paths. Different segments, appearing almost unexpectedly. <…> Quiet, without people or tourists, yet safe. Warm. Foggy, beautiful <…>. Diversity. The possibility to wander and improvise. Closeness to nature. Beauty. It really was very beautiful. I should return there and make a sensory map."
> (S. Kondratyeva's archive, 2022)

This text demonstrates an affective landscape. At the moment of the walk, I was in a rather introverted state and did not want to communicate with people. The fog allowed me to barely see anyone, while the sounds of the city and the cozy tiled rooftops created a sense of safety. I also recognized in the possible ways of exploring the hill qualities that are important to me—diversity, creativity, and improvisation.

Later, when I began my long-term travel and lived in Plovdiv for two months, Sakhat Tepe became a "place of strength" for me. I came there after nightmares or when I felt lost. I could lean against the stones, feel their support and my own power, and simply say "thanks" for everything that was happening. I even wanted to create a project there similar to the one by artist Valie Export, who attempted to become—physically—a part of the urban landscape (Valie Export, n.d.). Possibly, both the interpretation of "a place that feels like me" and the supportive practice on the hill were connected through physical contact and bodily sensations.

In Novi Sad, I periodically invited migrants to do this psychogeographical exercise. I asked them to complete the phrase "A place that looks like me is…", and then to reflect on the reasons for their choice. Naturally, these reasons were unique for each participant. Not all responses included bodily sensations—at times, the metaphorical dimension prevailed. What remained constant was the very act of affective identification with urban space. Sometimes I slightly modified the task and asked participants to reflect on the typology of what "looks like me." In this case, more common patterns emerged. The most frequent typological metaphors were the image of a half-ruined home or a home suspended above the ground.

There was also a second psychogeographical image—"a place for everyone." This concept is particularly valuable to me because it was once given to me by a migrant who had moved from Africa to Sweden. At that time, I was conducting research in the Swedish city of Varberg during a summer school and asked residents about their favorite place in the city. This young man showed me the city's main landmark, Kallbadhuset (the cold bath house). He explained that, in his view, the building combined features of different cultures and religions, and that various groups of people practiced different activities around it—therefore, "this is a place for everyone." At the time, I did not fully understand this idea. However, later, after relocating to a new city myself, I realized that I wanted to find such a place in Plovdiv. For me, it turned out to be a section of Rayko Daskalov Street near the Kapana Gallery. People are eating, musicians are playing, everyone appears as a stranger, and that is completely acceptable.

I believe that the nature of such a place—and the need for it among migrants—can be explained through Erving Goffman's theory of social performance (Goffman, 1959). Social groups mark the spaces they occupy through the enactment of particular social performances. In a "place for everyone," the number of social performances is so large that all their performers appear equally as Others. Although, as one workshop participant noted, a truly universal place does not exist, reflecting on this concept helped identify the most inclusive places in the city from migrants' perspectives.

It was also in Plovdiv that another observation regarding the perception of heritage emerged, which was later developed in Novi Sad. I was surprised to discover that new residents of a city might not be interested in the historical narratives of heritage sites at all. Nevertheless, these sites can remain important and are actively reinterpreted according to migrants' immediate needs.

One of the main symbols of Plovdiv is the Ancient Theatre. It may sound strange, but I was not particularly interested in its historical background. What mattered most to me was the idea proposed by theatre scholar Erika Fischer-Lichte, who argues that ancient theatres played an important role in building societies and time-based communities (Fischer-Lichte, 2008). This idea, together with the open and horizontal form of the theatre, was more than enough for me to recognize my own values in this place and like it with all my heart.

In Novi Sad, my attention was drawn to a building at 2 Dunavska Street. A cannonball from the 1849 bombardment is embedded in its façade (NS Priče, 2020). At that time, the city was almost completely destroyed by fire but was later rebuilt (021.rs, 2019). Shame on me—I constantly forgot which side of the conflict occupied the Petrovaradin Fortress and bombarded the city from there in 1849. Yet the site itself became meaningful to me:

> "A black ball the size of a fist between the shutters of a pink house on a pedestrian street. Near the crossroads where the city once began. Like a wound in the building that people are now glad has survived. <…>. A reminder that the city was rebuilt. A reason to think that cities, like people, experience grief, loss, starting life from scratch, and scars. And that this is probably not a reason to stop eating ice cream and drinking coffee [enjoying life in the place of former trauma] — at least after some time", I wrote during a freewriting exercise (S. Kondratyeva's archive, 2022).

Across all the examples described in this section, personal needs, states, reflections, and values are spontaneously projected onto the landscape. As a result, the landscape becomes intelligible and supportive. This may occur because newcomers do not yet know local cultural codes but still experience a strong need for codification, or because they cannot find themselves within official narratives. The resulting interpretations often diverge significantly from dominant ones and may even contain factual inaccuracies. This poses a major challenge for the heritage sector. At the same time, careful study of such narratives can offer valuable insights into how heritage might be communicated to Others, what kinds of services to develop, and how to position heritage as a resource for inclusion.

6. **Exhibitions as Sites of Shared (Embodied) Experience of Movement**

In recent years, Serbia has experienced a growing influx of foreign residents, including Russian-speaking migrants. Museums have encountered a new audience that is often even more interested in museum visits than local visitors. However, this situation also reveals a significant challenge related to language barriers: Attending guided tours in Serbian requires a relatively high level of language proficiency and familiarity with specialized vocabulary. Exhibition labels and captions rarely provide enough information to satisfy the curiosity of expatriate visitors. For this reason, museums have begun experimenting with guided tours in Russian, either by engaging local professionals who speak the language or by collaborating with expats with a background in museum or heritage work.

In 2023, I volunteered in this capacity at the Gallery of Matica Srpska, and since May 2025 I have been collaborating with the Museum of Vojvodina. This experience provided invaluable insights—not only into interaction with local cultural institutions and the professional heritage field, but also into observing the audiences who attend such tours. I was genuinely surprised by the openness of museum professionals: Over the past three years, I have received more personal support than during ten years of work in my home city. At the same time, the experience of migration itself prompted broader reflections on the social inclusivity of the professional heritage sector. For instance, what are the chances that a foreigner can find employment in the heritage field of a host country? Is volunteering or short-term collaboration the only possible role available to them? While such forms of engagement are undoubtedly valuable, these questions nevertheless reveal issues within the institutional framework of the sector.

Expressing my gratitude once again to the teams of both museums, in this section I would like to share two key findings from my three-year experience. First, using guided tours of permanent and temporary exhibitions, I demonstrate a frequent weak point in heritage interpretation for "Others." Second, I describe a case study of an educational exhibition created within the Erasmus+ project aMUSEment, implemented by Kulturanova, which I consider a successful example of a participatory and inclusive project addressing migration and mobility—one that could be replicated in other institutions.

One of the core principles of interpretation is that it should connect what is being presented with the visitor's personal experience (ICOMOS, 2008; Tilden, 1977). However, this principle can be implemented in different ways, and it is often crucial to understand the specific nuances of the target audience's lived experience. I illustrate this through guided tours of an exhibition dedicated to furniture collected and redesigned by architect Dragiša Brašovan and donated to the Gallery of Matica Srpska (Galerija Matice Srpske, 2023). Museum guides, noticing a large number of Russian-speaking visitors in mixed groups, often attempted to draw attention to objects connected with Russia—such as icons or Palekh decorative boxes. Most likely, this strategy aimed to appeal to visitors' personal cultural backgrounds and to integrate their prior experience into a new context. However, this approach proved problematic for two reasons that are not obvious to local guides but are evident within expatriate communities.

First, Russian is used not only by migrants from Russia, but also by people from many post-Soviet countries, including Kazakhstan, Belarus, Ukraine, Armenia, and others. Objects associated specifically with Russia therefore do not resonate with the cultural experiences of many visitors from this language group. As tourism scholars have noted, "tourists in your locality can only be sold their own heritage, not that of the host" (Ashworth, 1994, 282). With migrants, however, the situation is different. People leave their countries for a variety of reasons, and a guide can never know whether references to the homeland will evoke pleasant feelings of recognition and nostalgia, or instead trigger complex and painful emotions.

My experience showed that it is far more effective not to seek connections between the exhibition and the migrants' countries of origin, but rather to identify moments that resonate with their recent experiences of migration and adaptation. For example, during the same Bra̧šovan exhibition, I began the tour with an episode only briefly mentioned in standard tours for local audiences. I drew attention to the fact that in the twenty-first century, most people have changed their place of residence at least once and have had to settle into a new home. Bra̧šovan's own house, built according to his design, was destroyed during the Second World War. After relocating, he rebuilt his home anew, and all the objects presented in the exhibition are products of this process of homemaking. We then explored what these objects might reveal about the architect as a person.

Similarly, at the Museum of Vojvodina I led a guided tour of Novi Sad that began with the First Great Migration of the Serbs in the 1690s. I emphasized that the city has always been multiethnic and that its newcomers in the eighteenth and nineteenth centuries faced challenges similar to those of today's migrants: Finding work, choosing schools for children, establishing a household, and moving from newcomer status toward formal citizenship in a Free Royal City. At the end of the tour, one participant remarked: "I used to think there was nothing in common between me and the locals, but now I see how much my life resembles the lives of these people." (personal communication, 2025).

Beyond reinterpreting existing exhibitions, museums can also foster social inclusion through purposefully designed participatory temporary exhibitions focused on migration. Below, I describe the case of the aMUSEment project. Strictly speaking, the project was not originally intended as an inclusion initiative, but rather as an exploration of heritage gamification. However, one of the educational processes spontaneously evolved into a powerful example that could be transferred to other contexts.

The project took place in 2024 and included an offline seminar for museum professionals in Sremski Karlovci. At the end of the workshop, participants were divided into teams and tasked with creating a game-based exhibition. Since the workshop venue did not possess its own heritage objects, participants were asked to bring their own "heritage"—items that were meaningful or memorable to them.

One group discovered that many of their objects were connected to the idea of home, and that most participants had experiences of relocation: For education, for their first independent rental, or for living abroad. The group decided to create an exhibition about losing and

finding home. At the beginning, visitors were informed that they had to move for some reason. Symbolically, they received a paper that played the role of a suitcase, and passed through several "stations." At each station, they read the story of an object contributed by the exhibition creators. The first object related to childhood, the second to joy, the third to emotional attachments, the fourth served as a talisman, and so on. At each station, visitors completed a task: Writing on their paper-suitcase an object from their own lives corresponding to the same theme. By the end, they assembled their personal sense of home.

Listening to this concept, I immediately thought of my own orange carry-on suitcase and remarked: "I can confirm that my suitcase contained all the categories you mentioned—and your story makes my eyes sting." So I joined this group, and my suitcase became part of the exhibition.

It was joyful to create this exhibition: Reading others' explications and seeing fragments of journeys from home to home. It was also awkward, frightening, and therapeutic to include my own story. Therapeutic precisely because it stood among many others—stories of education, careers, leaving parents' homes, first rentals, dreams, and adventures.

Equally important was that experiences were shared not only through written narratives, but also through physical and playful actions. At the entrance, visitors' paths were blocked by threads (which also gave the exhibition its title). To proceed, they had to squeeze through them—symbolically conveying that migration requires effort and involves discomfort. At the station related to childhood, cushions were placed on the floor, inviting visitors to sit and even play with toys. At the end of the exhibition, visitors were asked to place Lego bricks into the foundation of a new house. And it was deeply moving for me to watch visitors place sticky notes into my suitcase, writing what "home" meant to them.

Together, these elements made it possible to address migration through play, to see one's own story among many others, to render the experience visible and embodied, and to share it on multiple levels. One visitor, a teacher by profession, remarked that this format could be used to discuss migration with children and that she would adapt the idea for her own workshop. Another visitor shared that it was "the most meditative exhibition" he had ever experienced.

7. **Conclusions**

The article has examined a set of tools that can support migrants in forming a sense of belonging, with particular attention to its sensory and embodied dimensions. Among the key tools discussed are freewriting and freewalking; the construction of rituals; creative mapping; creative writing grounded in psychogeographic practices; and the creation of participatory exhibitions. Through the application of these tools, several findings emerged regarding the role of heritage in homemaking processes and the formation of a sense of belonging.

The study shows that during the first months—and sometimes even years—in a new place, one of the main challenges migrants face is disorientation: Bodily, psychological, and social. This state fundamentally complicates the perception of heritage. One way to address this con-

dition, or to mitigate its effects, is through a combination of freewriting and freewalking. This tool enabled the transformation of historical landscapes into affective ones. It helped participants practice a sense of presentness and name the feelings they experience toward places—even if it was "I feel nothing." It was also observed that participants' emotional and physical states significantly shaped perception and interpretation, and they tended to define new places through the lens of past landscapes, particularly in visual terms.

Gaps between past and present sensory landscapes constitute a background stress factor that can challenge both quality of life and identity. However, these gaps can be addressed through the recognition and performance of sensory habits, as well as through the reflective analysis of everyday routes and activities in the city. In this research, creative mapping served this purpose. The exercise symbolically enacts a right to the city and to heritage, while also making individual experiences within it visible. It demonstrated that, even within the same historic district, there is a substantial difference between tourist and migrant perceptions of heritage. For tourists, heritage acquires significance through engagement with landmarks and their histories. For migrants, it becomes meaningful when embedded in routine, stable, and often unnoticed routes and experiences. These may be functional (work, home, a child's school) or supportive (a favorite café, a cosmetologist, or walking along central embankments while listening to music). Heritage sites mostly appear within the second category.

The research also employed tasks related to psychogeography, such as responding to prompts like "A Place That Looks Like Me," "A Place for Everyone," or writing "A Letter to the City." The analysis of this experience showed that through creative reinterpretations of what initially appears to be "Others' heritage," migrants can gain a deeper understanding of their own needs, values, and challenges. As a result, unique narratives emerge that intertwine heritage interpretation with self-interpretation. This sense-making process should not be underestimated, as it permeates the everyday life of a new city resident. The possibility for this process to unfold through heritage represents its largely underutilized potential.

The research demonstrates that belonging for migrants often entails the right to their own narratives, as well as access to spaces in which these narratives can be created, made visible, and shared with others. Such spaces may include exhibition environments, through the interpretation of permanent displays or the initiation of participatory formats. In such cases, processes that connect migrants' recent experiences with the exhibition are particularly effective, as well as the creation of spaces—whether physical or symbolic—in which their experiences become intertwined with those of other city residents. Of particular value are experiences shared not only through verbal narratives but also through physical and creative actions, as these enable inclusion on multiple levels.

The study suggests that the tools described have clear potential for use by heritage institutions and practitioners working with socially inclusive and participatory formats. From a practical perspective, freewriting and freewalking, creative mapping, and psychogeographic

prompts require only minimal technical resources, such as paper, clipboards, pens, and coloured pencils. The most important aspect of planning and implementing these activities is collaboration with one or more members of the migrant community as facilitators. Their role may include, first, helping to disseminate information about the workshop, as migrant communication networks often remain largely invisible to local heritage institutions. Second, they may assist with interpretation during the workshop or facilitate the entire activity in participants' native language, subsequently sharing the outcomes with the institution. Third, they can contribute to interpreting the results and fostering the longer-term sustainability of integration processes. Although a single workshop may last only 1.5–2 hours, establishing long-term collaboration with migrant facilitators is likely to be a more effective strategy.

Participatory exhibitions may require more complex preparation and a higher level of resources than the other methods described. Nevertheless, as the case presented in this study demonstrates, such an exhibition can be created within a small venue using inexpensive, readily available materials during an intensive three- to four-day workshop. The crucial factor is not technical equipment but an atmosphere of creativity, trust, and acceptance. Moreover, an intensive workshop format may be more effective in bringing the collaborative process to completion than a series of occasional meetings spread over a longer period. As with the other methods discussed, the involvement of a migrant facilitator can play an important role. If participants are invited to contribute personally meaningful objects to the exhibition, institutions should also ensure that appropriate measures are in place to safeguard these belongings. Also, participants should always have the opportunity to remain anonymous, to share only selected aspects of their experiences, or to keep the texts, drawings, maps, or other materials they produce entirely private.

Described tools make it possible to gain insight into the sensory landscapes of newcomers, as well as to access their imaginative, symbolic, and value-based descriptions of heritage. At the same time, certain limitations should be acknowledged. The interpretations of heritage produced by migrants are highly subjective, often resist generalization, and frequently diverge from established narratives. This presents a significant challenge for the heritage field. First, it suggests that no single guidebook, guided tour, or exhibition alone can fully meet migrants' needs in terms of fostering a sense of belonging. Second, it highlights that heritage interpretation and research cannot be conducted without the active involvement of migrant communities themselves. This involvement entails overcoming multiple obstacles, ranging from language barriers to limited awareness and access. It requires a considerable degree of openness and resources to establish meaningful contact and to be prepared to encounter unexpected and non-obvious meanings within one's own heritage.

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ARCHAEOLOGICAL EXCAVATIONS IN PIAZZA SAN MARCO, VENICE. COMMUNICATION AS A TOOL FOR INCLUSIVE HERITAGE GOVERNANCE

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ARCHAEOLOGICAL EXCAVATIONS IN PIAZZA SAN MARCO, VENICE. COMMUNICATION AS A TOOL FOR INCLUSIVE HERITAGE GOVERNANCE

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Abstract

Piazza San Marco is one of the most symbolically significant urban spaces in Europe, where historical stratifications remain visible and the relationship between residents and the city is continually renegotiated. The large-scale archaeological excavation conducted between 2023 and 2025 for the conservation of the historic paving showed how, in such a context, archaeology may assume not only a scientific but also a relational and civic dimension. Using this case study, the article explores how public archaeology and transparent institutional communication can foster trust and community engagement within the Italian heritage protection system. Conducted during a period of profound demographic transformation in Venice, the excavation introduced an alternative temporality into the square and created opportunities for dialogue between institutions and residents, suggesting new approaches to inclusive heritage governance.

Keywords

Piazza San Marco, *Public archaeology*, *Faro Convention*, *Over-tourism*, *Heritage communication*, *Urban heritage*

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Piazza San Marco is one of the most symbolically significant urban spaces in Europe, where historical stratifications remain both materially visible and socially meaningful. For centuries, the square has functioned not only as the civic heart of Venice but also as a spatial and symbolic framework through which the city continuously constructs and renegotiates its identity. Any intervention in such a context, even when primarily technical in nature, inevitably unfolds within a landscape where political authority, collective memory, and public expectations intersect. In a setting of this kind, archaeological protection cannot be understood solely as a technical or disciplinary activity. The excavation carried out between 2023 and 2025 across the entire square, initiated for conservation reasons linked to the historic paving, showed how archaeological work in a highly exposed urban environment may extend beyond the production of scientific knowledge and acquire broader social and civic dimensions.

Across European and international contexts, public archaeology has increasingly been accompanied by forms of communication that present excavation processes as integral components of heritage management (Moshenska, 2017). These developments have contributed to a conceptual and operational framework in which transparency, dialogue with communities, and the public visibility of archaeological work are regarded as relevant dimensions of heritage protection. In Italy, although the legislative system assigns full responsibility for archaeological heritage to the State, the adoption of such open and dialogical practices has proceeded more gradually and continues to contend with administrative, territorial, and cultural specificities that vary significantly from region to region. This gradualness reflects not a lack of commitment, but the complexity of a system rooted in long-standing legal traditions and operational structures. More participatory and communicative approaches therefore tend to emerge incrementally, according to the rhythms, constraints, and opportunities of each context. Piazza San Marco can thus be understood not as an exception, but as an illustrative case of how existing institutional mandates may evolve towards more open forms of engagement when supported by local conditions, professional practices, and a broader relational understanding of protection.

1. **Research Approach and Scope**

This chapter presents a reflective case study of the archaeological excavation carried out in Piazza San Marco between 2023 and 2025. Its aim is to examine how heritage protection in a highly symbolic urban context may also function as a relational and communicative practice, and how the public visibility of excavation, institutional communication, and everyday interactions around the works contributed to forms of civic engagement within the Italian State-led system of archaeological protection. Methodologically, the chapter is grounded in direct field observation during the excavation process, in institutional documentation related to the intervention, in communication materials produced during the works, and in the broader public and media responses generated by the excavation.

Direct field observation included the everyday monitoring of interactions between archaeologists, institutional staff, residents, visitors, and economic operators around the excavation areas, with particular attention to spontaneous questions, informal explanations, repeated encounters, and the ways in which the construction site modified the public perception of the square. The institutional documentation considered includes administrative and technical materials produced in the framework of the intervention, while the communication materials examined comprise press releases, social media updates, photographic documentation, public explanations provided on site, and the information circulated through local networks and associations. Public and media responses are interpreted qualitatively, not as measurable indicators of participation, but as traces of reception, curiosity, trust-building, and occasional misunderstanding around the excavation process.

The discussion does not seek to provide a quantitative assessment or a formal comparative model; rather, it offers a situated interpretation of a single case in order to reflect on its broader relevance for current debates on public archaeology, heritage communication, and inclusive heritage governance. Within this framework, the Piazza San Marco excavation acquires particular analytical significance. It represents a local reinterpretation of internationally recognised approaches, adapted to the public mandate of archaeological protection in Italy and to the specific historical and social conditions of Venice. The intervention generated new information concerning ancient and modern phases of the square, but it also activated relational dynamics that reshaped the way the Ministry of Culture, which funded the excavation, and the Superintendency presented themselves and operated vis-à-vis the wider community.

The central argument advanced here is that communication does not simply accompany heritage protection as a supplementary action or explanatory tool. Rather, it may become an integral dimension of institutional responsibility: A space in which knowledge is returned, negotiated, and mobilised as a basis for trust. In contexts characterised by high symbolic density, trust becomes a precondition for institutional action. When archaeology intervenes in a space such as Piazza San Marco, it affects a place widely perceived as part of the common good; what is done, or left undone, is immediately interpreted by citizens as bearing on their relationship with the city.

This point is especially significant in contemporary Venice. Over recent decades, many residents have increasingly perceived the city as suspended between its historical identity and the pressures of mass tourism, which tends to consume places rather than understand them (Seraphin et al., 2018). Piazza San Marco, which should function as a primary civic space, often appears instead as an overcrowded stage dominated by image production and rapid visual consumption. For residents, this dynamic produces a gradual sense of dispossession: The square remains physically present, yet it appears to belong ever less to the community that generated it (Settis, 2014).

In this context, archaeology acquires an unexpected social and affective resonance. The excavation, despite its provisional nature, restored a sense of depth that many residents could immediately recognise. In the exposed layers and structures they identified not only traces of the past but also a renewed relationship with the square itself. Archaeology thus offered a form of emotional foothold within a city increasingly experienced as distant from everyday life.

This dynamic becomes even more significant in light of Venice's demographic and social transformation. The city has undergone a progressive reduction in its resident population, becoming less a place that is inhabited and more a place that is consumed (Costa, 2019). This transformation affects not only urban organisation and services; it also weakens the possibility for the local community to recognise itself in inherited spaces. According to the Faro Convention, a heritage community exists only when it can maintain an active and affective relationship with its heritage. In Venice, however, this relationship is continually strained by socio-economic processes that erode residents' symbolic centrality. Piazza San Marco, in particular, is widely perceived as a place that no longer fully belongs to the city, its use dominated by transient presences that saturate the space and make it difficult to read as a common good.

The resulting exclusion is subtle. It is not codified by regulation, but produced through numerical pressure and the transformation of everyday practices (Waterton & Smith, 2010). In a city so deeply shaped by symbolic life, this pressure flattens spaces into stage sets and reduces historical depth to visual background (Smith & Waterton, 2009). Archaeology interrupts this flattening. To open the ground, expose stratifications, and restore visibility to vanished structures is to reactivate a relationship with place that does not depend on consumption (Halbwachs, 1992). For residents, this gesture is not merely a discovery, but a confirmation that the square retains a level of truth that escapes superficial uses. The excavation becomes an opportunity to recognise that beneath the city exposed to global flows there continues to exist a more intimate city, composed of passages and stratifications that still matter to those who inhabit it.

This recognition has an inclusive value. It restores to residents a form of cultural citizenship that is not merely symbolic but concrete: It enables them to reappropriate the place through knowledge, through the slow temporality of research, and through the immediacy of discovery. In this sense, archaeology safeguards not only the materiality of heritage but also the possibility for the community to continue perceiving itself as part of its historical and contemporary environment.

Inclusion, therefore, cannot be understood merely as the widening of access (Smith, 2006). Practices such as consultations, public meetings, and informational pathways undoubtedly play a role, yet they often produce forms of engagement that remain episodic and formal. More substantive inclusion emerges when a stable relationship is cultivated between institutions and communities, one that enables individuals to recognise themselves within the process. Such dynamics arise less from isolated events than from the quality of everyday interaction and from an institutional attentiveness willing to engage with complex lived experiences.

From this perspective, communication is not limited to the dissemination of content or the explanation of results. It involves the sharing of process, the clarification of decisions, the exposure of uncertainties, and the articulation of the rationale underpinning the intervention. It is not only an operational tool but also an ethical stance, signalling that heritage protection is exercised not solely through regulation and expertise, but also through the capacity to recognise those who inhabit heritage and to include them in the dynamics that affect it.

The literature on inclusiveness in cultural heritage management has emphasised participatory governance, yet such formulations risk remaining abstract unless examined within everyday practice (Richardson & Almansa-Sánchez, 2015). Many European initiatives have focused on formal consultation models or participatory bodies, but Venice presents a context in which the daily use of urban space generates continual interactions among heritage, institutions, and community. Here, participation manifests less through codified procedures than through the intensity of relationships cultivated between those who work for heritage protection and those who inhabit the space.

This was clearly visible during the excavation. As in earlier moments of Venetian archaeology, from Giacomo Boni onwards, an excavation opened in the heart of the city could never be entirely closed. Whatever was unearthed remained subject to public scrutiny, and the public became co-observer and, at times, co-interpreter. Even in its most congested moments, the square retained the capacity to pause, observe, and interrogate what surfaced. This spontaneous dialogue created fertile ground for a mode of communication that did not merely explain but actively generated meaning.

The communicative approach developed during the excavation functioned as an instrument of governance because it was woven into the fabric of the work itself. Any construction site inevitably alters routes, perceptions, and the visual relationship with the environment, often generating negative reactions. In this context, communication rendered the shift intelligible and situated it within a continuum of shared meaning, enabling people to understand what was happening, why it was happening, and what significance it held for the community as a whole.

This emerged through simple and immediate gestures, in which explanation took the form not of a unidirectional narrative but of an encounter (Edgeworth, 2006). The physical proximity between archaeologists and the public created a space of exchange that no formal instrument could replicate.

This exchange often took place through brief, repeated, and highly situated interactions: Passers-by asked what had been found, why the paving had been removed, how long the works would last, or whether the uncovered structures belonged to ancient or later phases of the square. Archaeologists and institutional representatives responded by translating technical information into accessible language, explaining the stratigraphic logic of the excavation, the conservation needs of the paving, and the provisional nature of archaeological interpretation while the work was still in progress. These apparently minor conversations were central to the communicative dimension of the project, because they transformed curiosity, and sometimes irritation caused by the presence of the construction site, into a more informed understanding of the intervention.

Technical knowledge intertwined with expectations, memories, and curiosities that no longer remained external to protection and research. The site thus became an inhabitable place rather than a separating device, a conversational space that allowed archaeology to be understood as a process rather than a finished product. Alongside this everyday dimension, institutional communication provided coherence and continuity to the public representation of the intervention. The use of social media, dialogue with the press, and regular updates created a stable and accessible informational environment.

In practical terms, this communication included the publication of images and short explanatory texts on the progress of the excavation, the contextualisation of individual discoveries within the longer history of the square, and the clarification of the relationship between archaeological investigation and the wider conservation works on the paving. Press contacts made it possible to frame the excavation not as an obstacle to the use of Piazza San Marco, but as a necessary moment of knowledge and care within a broader public intervention. At the same time, the collaboration with local associations, and in particular with the Piazza San Marco Association, helped to extend the circulation of information beyond institutional channels, reaching residents, shopkeepers, and people who experience the square on a daily basis.

Transparency, frequently invoked in normative discourse, took concrete form here. It helped make decisions visible, clarify the boundaries of the intervention, and prevent communicative voids from fuelling distorted interpretations. Citizens could follow the process in real time rather than only at its conclusion, and this continuity contributed significantly to the consolidation of trust.

Participation also materialised through diffuse and often informal relationships involving local associations, residents, business owners, and regular visitors to the square. Collaboration with the Piazza San Marco Association expanded the project's communicative reach and transformed institutional communication into a form of community communication.

The association acted as an intermediary capable of relaying questions, expectations, and concerns emerging from those who live and work around the square, while also helping institutional messages circulate within a community that is not always reached effectively by formal communication alone. Information circulation did not remain centralised; it became a network mobilising diverse competencies and sensibilities, helping to stabilise a cooperative climate around the excavation.

When an archaeological excavation unfolds in a space as exposed as Piazza San Marco, it inevitably acquires a performative dimension (Holtorf, 2007). It is not simply a technical operation; by virtue of its visibility, it generates meanings that exceed the strictly scientific. The slowness with which the ground is opened and interpreted contrasts sharply with the accelerated rhythms of tourist consumption, introducing an alternative temporality. The presence of archaeologists tracing stratigraphic sequences interrupts the visual continuity of the square and restores its depth. In this gesture, a form of inclusion becomes visible: The work does not conceal itself, but exposes itself to view and invites those who observe to share in a moment of interpretation.

The physicality of the work often requires little verbal mediation (Hamilakis, 2013). Hands removing sediment, tools delineating boundaries, and repeated gestures seeking coherence across surfaces constitute a corporeal language through which passers-by can intuitively grasp the logic of the process. Transparency emerges not only from formal communication but also from the fact that the work takes place outdoors, in full view. What the public encounters is not a completed result, but the moment in which the past is interpreted through the present.

This public exposure also changes the tempo of work. Questions, improvised explanations, and repeated encounters introduce a dialogic dimension that transforms a technical act into a shared experience. In this way, archaeological performance creates conditions through which the public may enter the interpretative process without remaining distant spectators.

Time is central to this dynamic. Venice is a city in which everyday temporalities are continually compressed by the accelerated logics of tourist consumption (Rosa, 2013). Archaeological excavation, by contrast, introduces a different temporality, one that slows, suspends, and compels engagement with extended durations (Koselleck, 2004). It is the temporality of stratigraphic work: Slow, attentive, and fundamentally incompatible with consumption. This too becomes a gesture of inclusion. To offer the city a different rhythm is to enable its inhabitants to recognise themselves in an experience that belongs to them, one that rapid consumption tends to erase.

Such a reconfiguration of time has direct implications for governance. When the community understands why an intervention requires a duration that exceeds the usual tempo of urban life, a form of mutual trust is generated. The public recognises the value of care, and the institution acknowledges the community's capacity to grasp the complexity of the work. The sharing of time becomes a crucial element of participation, because it enables a relationship to be built not upon immediacy but upon the capacity to wait together.

This dynamic aligns closely with the conception of heritage communities articulated in the Faro Convention and with broader reflections on the governance of common goods. Piazza San Marco is a public cultural asset marked by non-excludability and by a form of non-rivalry constantly tested by overcrowding (Ostrom, 1990). Its protection therefore cannot rely solely on external regulation but requires cooperative behaviours and co-responsibility rooted in shared social norms (Bollier & Helfrich, 2012; Ostrom, 2005). Communication played a decisive role in cultivating this context: It rendered institutional decisions intelligible, reduced the

distance between those who intervened and those who inhabited the place, and enabled the construction of reciprocal expectations (Bicchieri, 2017). When individuals understand what is expected of them and why, and perceive institutions as acting equitably, the propensity for opportunistic behaviour diminishes (Bicchieri, 2006).

Archaeology thus produced inclusion not by organising participatory events but by offering a shared language through which the place could be interpreted. Each stratigraphic layer, fragment, and trace brought to light functioned as an opportunity for dialogue, enabling the community to recognise itself in a history that does not belong solely to specialists (Meskell, 2005). Inclusion was constructed not as simple physical access, but as the capacity to perceive oneself within heritage and to recognise one's role in its unfolding.

Institutional communication, however, never operates as a neutral gesture. It functions as an oriented and selective narrative that determines which aspects are made visible and which interpretative frames are privileged. In a context as exposed and symbolically charged as Piazza San Marco, every communicative choice acquires a political dimension, because it contributes to defining who is included within the city's narrative and how.

This is particularly important in a square continually reinterpreted by touristic, commercial, and media-driven narratives that tend to transform it into a depthless icon (Silverman, 2011). The institutional narrative must position itself within this landscape and decide whether to reproduce or contest it (Harrison, 2013). What is needed is not a simple refusal of visibility, but an alternative reading of the square: One that resists treating it as a mere backdrop and instead presents it as a historical organism that continues to transform. Communication thus becomes a political instrument in the broadest sense, intervening in the struggle over the meaning of the place.

This power of definition is crucial for inclusion. If inclusion concerns the possibility for a community to see itself represented within heritage, then the institutional narrative becomes one of the primary arenas in which this representation is constructed. A narrative that accommodates a plurality of perspectives, acknowledges the fragilities of the local community, and conveys the density of the place enables a redistribution of cultural power, rendering it accessible not only to specialists but also to those who live the square in everyday life.

One of the most significant aspects of the Piazza San Marco experience concerns institutional vulnerability. By rendering the excavation process public and accepting exposure during the work, the Superintendency moved away from the traditionally shielded position of an authority that speaks only once results have been consolidated. This exposure did not entail a relinquishing of authority, but a different way of exercising it. Showing intermediate stages, acknowledging uncertainties, and making explicit the complexity of choices meant adopting a stance that did not conceal fragility but incorporated it into a relationship of trust.

This deliberate vulnerability constituted an advanced form of inclusion. It enabled the community to understand that heritage protection is a field of complex decision-making in which public responsibility is constantly negotiated against material, interpretative, and

organisational constraints. In this way, the symbolic distance between institution and public was reduced: Protection became a civic practice constructed through listening and reciprocal adjustment.

The excavation in Piazza San Marco thus demonstrates that inclusion in the heritage sector does not emerge from the mechanical application of predefined models, but from the quality of the relationships an institution is capable of cultivating while carrying out its work. In an exceptionally exposed and symbolically dense space, communication assumed the form of a generative practice that produced trust and rendered visible the complexity of the intervention. For a limited yet decisive period, the square again became a civic space rather than a merely iconic one.

The broader relevance of this case lies in showing that inclusion cannot be reduced either to accessibility or to a repertoire of participatory procedures. It arises when institutions accept exposure and recognise that heritage protection is not constructed in technical solitude, but through dialogue that engages emotions no less than knowledge. In the Venetian context, marked by demographic erosion, intense tourist pressure, and continual social transformation, this model acquires particular salience. The excavation slowed the rhythm of the square, created a shared temporality between archaeologists, residents, and business owners, and enabled the local community to reactivate an affective bond with a place increasingly perceived as withdrawn from its sphere.

This experience also points towards a possible direction for the future. The sustainability of heritage protection in complex urban contexts such as Venice will depend increasingly on the capacity to keep these relational spaces open, to stabilise what initially emerges as a contingent practice, and to transform communication into a structural component of governance. From this perspective, Piazza San Marco may be regarded as a laboratory for rethinking the relationship between heritage, institutions, and community. Although deeply rooted in the specificities of Venice, the case offers insights that may be reinterpreted elsewhere. The centrality of relationality, the transparency of processes, and the institution's willingness to expose itself suggest a model that may be adapted to cities and cultural landscapes facing comparable pressures in heritage governance.

In this sense, the excavation of Piazza San Marco suggests that inclusion does not derive primarily from formal devices, but from the ways in which a community is invited to participate in its own history. It shows that inclusive practices emerge not from procedural frameworks alone, but from the willingness of institutions to cultivate relationships, share uncertainties, and recognise the affective dimensions through which people inhabit places. Such an approach reframes heritage not as a static asset to be administered, but as a living field of interaction in which meaning is constantly negotiated.

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MORAL NORMS, PLANNED BEHAVIOR, AND SERVICE QUALITY: A CONCEPTUAL FRAMEWORK FOR TOURIST SUPPORT OF DISABILITY-INCLUSIVE HOTELS

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Abstract

Hotels are central to inclusive tourism because their employment practices shape who participates in service encounters and how inclusion is communicated to visitors. Although hospitality research increasingly addresses disability-inclusive employment, less is known about the consumer-side moral and cognitive mechanisms that drive tourists' intentions to support hotels employing people with disabilities (PWDs), especially under service-performance considerations. This conceptual paper develops an integrated framework combining Norm Activation Theory (NAT) and the Theory of Planned Behavior (TPB) to explain tourists' support for disability-inclusive hotels. Using a targeted conceptual synthesis of previous literature, the paper assumes that hotel choice in this context is simultaneously moral (inclusion ethics) and planned (evaluative, socially influenced, and constraint-sensitive). The model thus posits that moral obligation, activated through ethical awareness, shapes evaluative beliefs, responds to social influence, and yields intention when feasibility is perceived as sufficient. To theorize moral–functional trade-offs in hospitality markets, Perceived Service Quality (PSQ) is introduced as a boundary condition that moderates the norm–intention and attitude–intention relationships. The paper contributes a coherent conceptual framework and testable set of propositions that can be empirically validated later via survey/experimental designs. Additionally, a three-stage managerial implementation strategy (grounded in CSR communication, role-fit design, and service recovery literature) is proposed, offering hotel managers concrete, theory-anchored guidance for communicating disability-inclusive employment while sustaining guest confidence in service quality.

Keywords

Disability-Inclusive Employment, *People with Disabilities (PWD)*, *Hospitality*, *Inclusive Tourism*, *Norm Activation Theory (NAT)*, *Theory of Planned Behavior (TPB)*, *Perceived Service Quality*

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Hotels and resorts are not just places to stay; they work as "access infrastructures" in the experience economy where heritage-rich destinations are consumed, mediated, and supported. In culturally iconic places, the practices of hospitality facilities and their operations contribute to how visitors encounter local identity while revenues from tourism spending are retained. Thus, hotel operations have been grounded in wider discussions of cultural tourism as well as the economics of heritage preservation (Barnes, 2022; Fyall & Garrod, 1998; Peterson & McCarthy, 2003; Škrabić Perić et al., 2021). In this larger tourism-hospitality system, however, employment practices have a less hidden social cue: by employing persons with disabilities (PWDs), hotels can help to realize inclusion objectives that go beyond the firm, supporting decent work and equal participation across tourism-linked sectors (Bellucci et al., 2023; Bengisu & Balta, 2011).

Despite the normative appeal of disability-inclusive employment, hospitality organizations continue to face practical barriers in terms of hiring PWDs. Prior research documents persistent concerns related to job fit, accommodation knowledge, perceived operational cost, stigma, etc., alongside the need for clearer organizational routines and demand-side support (Houtenville & Kalargyrou, 2015; Hutchinson et al., 2024; Jasper & Waldhart, 2013; Manoharan et al., 2024). Yet disability inclusion is not solely an internal HR-related issue on corporate social responsibility (CSR) grounds. Hotels operate in competitive service markets where consumer expectations about performance and comfort are central; consequently, inclusion initiatives may succeed or stall depending on whether guests interpret them as compatible with service standards. This demand-side reality is increasingly relevant as inclusive employment is discussed as a sustainability and accountability issue within tourism and hospitality (Bellucci et al., 2023; Mullin et al., 2024).

A key limitation of the current hospitality consumer-behavior literature is that it has largely treated "responsible choice" through an environmental lens. Reviews and empirical studies have shown extensive application of behavioral intention models (especially the Theory of Planned Behavior, TPB) to explain "green behavior" and related pro-environmental inten-

tions (Han, 2021; Han et al., 2010, 2011; Han & Yoon, 2015; Wang et al., 2024). In comparison, socially inclusive consumption (particularly tourists' intentions to support hotels that employ PWDs) has received less theory-driven, mechanism-focused attention. At the same time, the field is explicitly calling for stronger diversity and inclusion (D&I) scholarship that bridges employee-side realities with customer-side responses and advances theory rather than descriptive reporting (Branca et al., 2024; Madera et al., 2023; Yang et al., 2023).

Existing work on disability inclusion in hospitality provides important foundations but does not fully resolve the moral–behavioral mechanism underlying consumer support. Whereas the HR disciplinary stream examines employer intentions and hiring determinants, frequently using TPB or adjacent frameworks to explain organizational willingness to hire workers with disabilities (Ang et al., 2015a, 2015b; Fraser et al., 2011; Houtenville & Kalargyrou, 2015), some recent marketing or consumer behavioral scholarship attempts to examine guest or customer perceptions of disability-inclusive staffing and service delivery. This includes evidence that consumer responses may reflect both supportive evaluations and performance-based inferences, with perceived service quality and contextual conditions (e.g., service failure) influencing judgments (Kalargyrou et al., 2018, 2020; Kuo & Kalargyrou, 2014). Recent hotel-sector research further indicates that disability employment can influence guest perceptions and behavioral intentions, and that these effects may involve moral evaluation processes (Awad et al., 2023; Kim et al., 2025). However, even where moral judgment is incorporated, the literature remains fragmented: it does not consistently explain how moral awareness and responsibility translate into internal obligation and then into intention in a planned consumption setting, nor does it specify when functional expectations weaken (or strengthen) the translation of moral commitment into intended choice.

This paper addresses that gap by developing a conceptual framework that integrates *Norm Activation Theory (NAT)* with *Theory of Planned Behavior (TPB)* to explain tourists' intention to support disability-inclusive hotels. The integration is theoretically motivated by the nature of the decision: supporting PWD-inclusive employment can be morally consequential (inclusion, fairness, social responsibility), yet hotel choice is also deliberative and constrained by feasibility perceptions and social influence. Norm activation research highlights that personal moral obligation is typically preceded by consequence awareness and responsibility ascription, which jointly activate personal norms that guide pro-social intention (Bamberg & Möser, 2007; De Groot & Steg, 2009; Harland et al., 2007). Meanwhile, TPB and its extensions posit that attitudes, subjective norms and perceived behavioral control are predictive of intentions in choices that are evaluated, socially pressured or where people have perceived capacity/feasibility to act (Conner & Armitage, 1998; Parker et al., 1995). In tourism and service-related fields, integrating planned cognition with moral norms has consistently improved explanatory power, reinforcing the theoretical rationale for this approach (Liu et al., 2017; Michael et al., 2024; Setiawan et al., 2020).

Conceptually, the model advances the literature of sustainable tourism in two ways. First, it specifies a *dual-route moral activation* mechanism: a primary sequential pathway (awareness of consequences → ascription of responsibility → personal norms) alongside a residual direct

pathway (awareness of consequences → personal norms). This dual-route specification is particularly defensible in a relatively under-theorized inclusion context where consumers may internalize moral obligation even when responsibility attribution is incomplete or diffuse (De Groot & Steg, 2009). Second, it embeds moral obligation within planned cognition by positioning personal norms as an upstream driver of evaluative and intentional processes, thereby aligning "moral activation" with the realities of deliberative service choice (Fang et al., 2017).

To capture a practical tension of consumers in terms of disability-inclusive service consumption, the framework introduces *Perceived Service Quality (PSQ)* as a boundary condition. It moderates the relationships between (i) personal norms and intention and (ii) attitude and intention. Service quality theory and hospitality evidence suggest that perceived quality shapes value and satisfaction and can exert asymmetric influence on consumer responses (Brady & Cronin, 2001; Cronin & Taylor, 1992; Slevitch & Oh, 2010). Within disability-inclusive staffing contexts, prior hospitality research indicates that quality evaluations and stereotyping dynamics may meaningfully condition guest reactions (Kalargyrou et al., 2018, 2020), and that disability type can further shape customer perspectives (Awad et al., 2023). Although employers who hire PWDs do not assign them to tasks where the disability could compromise work standards, they have expressed concerns that the customers may perceive disabled service providers as incompetent (Bengisu & Balta, 2011). Accordingly, PSQ is conceptualized as the mechanism through which moral commitment faces functional scrutiny. Moreover, the proposed conceptual framework (Fig. 1) is operationalized into a three-stage manager implementation exhibit (Fig. 2) that maps each stage of the moral–functional trade-off onto specific guest-journey touchpoints, bridging theory and hospitality practice.

The objective of this conceptual paper is therefore to propose a coherent, testable account of how moral activation and behavioral cognition jointly predict tourists' support for disability-inclusive hotels, while explicitly theorizing the conditions under which this support may weaken due to quality expectations. The paper contributes by (1) extending responsible tourism behavior research beyond environmental sustainability to the ethics of social inclusion, (2) refining TPB–NAT integration through a dual-route moral activation mechanism embedded sequentially within planned cognition, and (3) foregrounding service quality as a theoretically grounded boundary condition that makes inclusion-support models more realistic in hospitality markets.

1. **Targeted Literature Review**

Consistent with the guidance of Torraco (2005) and Webster and Watson (2002) for rigorous narrative and integrative literature reviews, this paper uses a purposive search strategy based on Google Scholar keyword queries and iterative citation chaining (backward and forward snowballing) to identify seminal and recent work across three streams: (1) Ethical/inclusive consumption and CSR-linked hotel choice, (2) TPB/NAT and related norm-based intention models in tourism, and (3) disability inclusion and disability employment in hospitality and tourism. Search terms have been refined as constructs and influential studies

surfaced. Later, reputed peer-reviewed and SCOPUS-indexed sources were retained when they provided mechanism-level explanations, boundary conditions, and conceptual building blocks that are directly relevant to this research (Snyder, 2019; Wohlin, 2014).

1.1. Ethical and Inclusive Consumption in Tourism: From "Green" Morality to Social Inclusion

A substantial body of ethical consumption research demonstrates that consumers do not rely solely on utilitarian considerations when making marketplace decisions; rather, they often integrate moral concerns such as fairness, harm avoidance, and social justice into their evaluations, including in tourism and travel contexts. Comparative and cross-national studies further suggest that while ethical priorities may differ across settings, moral considerations remain a stable and consequential influence on consumer choice (Auger et al., 2007; Shaw & Shiu, 2003). This perspective highly aligns with the concept of consumer social responsibility (CnSR), which views consumers as active moral agents capable of reinforcing or challenging firm practices through their purchasing decisions—particularly when those practices implicate issues of human dignity, equity, and opportunity (Vitell, 2015). Within tourism, this lens has gained increasing relevance as sustainability discourse has expanded beyond environmental protection to encompass social inclusion, decent work, and equitable participation, thereby positioning disability-inclusive employment as a salient and legitimate focus of moral evaluation by tourists (Kim et al., 2025; Mullin et al., 2024; Yang et al., 2023).

At the same time, ethical consumption scholarship cautions against equating moral approval with enacted behavior. One of its most robust insights concerns the ethical intention–behavior gap, whereby individuals articulate ethical preferences yet fail to translate them into actual choices when confronted with competing considerations such as convenience, perceived risk, uncertainty, or performance expectations (Carrington et al., 2014). This disconnect is particularly pronounced in hospitality contexts, where hotel selection involves high experiential stakes related to comfort and service reliability mainly. As a result, support for ethically desirable practices may be contingent on whether consumers believe that core service outcomes will remain uncompromised. Viewed through this lens, choosing hotels that employ PWDs can be understood as a form of moral endorsement exercised under functional constraints, which necessitates a theoretical framework that captures ethical motivation while recognizing that hospitality decisions are rarely low-risk or purely symbolic.

A related development is the expansion of consumer research that treats diversity and inclusion (D&I) as an increasingly central marketplace signal. Recent reviews of D&I in consumer research argue that inclusion-related cues shape brand meaning, perceived legitimacy, and consumer responses, but also identify fragmentation: studies often address inclusion as a symbolic signal without modeling the psychological mechanisms that translate moral evaluations into behavioral intention (Awad et al., 2023; Branca et al., 2024). Moreover, generational work suggests that younger cohorts can be particularly attentive to inclusion and DEI signals, although responsiveness is not uniform and is shaped by how inclusion is framed

and whether it is perceived as authentic or performative (Dimitriou & AbouElgheit, 2019; Monaco, 2018; Muralidharan et al., 2025; Schewe & Meredith, 2004). Taken together, this stream indicates (i) inclusion is a credible moral domain of consumer judgment, (ii) moral endorsement may not translate into behavior under functional uncertainty, and (iii) there is room for mechanism-based conceptualization of how inclusion cues become intentions in tourism and hospitality (Auger et al., 2007; Branca et al., 2024; Carrington et al., 2014; Shaw & Shiu, 2003; Vitell, 2015).

1.2. **Behavioral Intention Theorizing in Tourism and Hospitality: TPB, Norm-Based Models, and Integrative Trends**

Tourism and hospitality research has extensively relied on behavioral intention models to explain why travelers choose responsible options and how attitudes, norms, and perceived feasibility shape intention. TPB, in particular, has become a default framework for modeling planned behaviors such as green hotel choice, where attitudes toward eco-friendly hotels, subjective norms, and perceived behavioral control reliably predict intention (Han et al., 2010; Han et al., 2011; Han & Yoon, 2015). This dominance is also reflected in broader synthesis work such as Han (2021) that documents how sustainability behavior research in tourism has largely focused on environmental outcomes such as energy, waste, green consumption, among other outcomes. However, these often treat morality as implicit or secondary. While TPB provides a strong cognitive architecture for intention formation, Conner & Armitage (1998) highlighted that tourism scholars have increasingly acknowledged that morally laden decisions may require explicit attention to moral obligation, personal norms, and pro-social motivation when consumers interpret the choice as ethically meaningful.

In parallel, norm-based frameworks or norm activation approaches (e.g., Norm Activation Theory or NAT) have been used to model pro-social and pro-environmental intentions by focusing on moral duty, responsibility, and internal norms. Rather than replacing TPB, a notable trend is integration: researchers combine TPB's planned cognition with norm-based moral constructs to improve explanatory power and to capture ethical motivation more explicitly. Integrated applications are now common across domains (e.g., sustainable transport, recycling, ecological ethics, charity) and often demonstrate that adding norm-based constructs improves prediction and offers richer psychological interpretation than single-theory models (Fan et al., 2025; Liu et al., 2017; Liu et al., 2020; Michael et al., 2024) even in tourism-specific contexts (Han & Hyun, 2017; Setiawan et al., 2020). Similarly, value–norm–TPB integrations in tourism adoption contexts reinforce the legitimacy of combining moral motivation with planned cognition, especially when behavior is simultaneously ethical and constrained (Khan et al., 2025).

Yet, two limitations persist in the tourism/hospitality behavioral literature relevant to the present study. First, social inclusion ethics, especially disability-inclusive employment, has been far less theorized than environmental sustainability from the consumer side, despite the sector's growing focus on inclusive tourism and D&I priorities (Madera et al., 2023; Yang et al., 2023).

Second, even where TPB and norm activation constructs are integrated, many models are presented as co-predictive (parallel) architectures rather than explicitly theorizing moral activation as an upstream mechanism that shapes cognitive evaluation under constraints like the studies of Chun T'ing et al. (2021) or Setiawan et al. (2024) in food-waste reduction contexts. This gap motivates a targeted conceptual extension: applying integrated behavioral theorizing to disability inclusion ethics in the hotel industry, while making boundary conditions (e.g., functional expectations) central rather than peripheral (Han, 2021; Han & Hyun, 2017; Liu et al., 2017; Madera et al., 2023; Setiawan et al., 2020).

1.3. **Disability/PWD Inclusion in Hospitality: Accessible Tourism, Workforce Inclusion, and Consumer Inference Under Service Expectation**

A distinct but related literature addresses disability and hospitality through two primary lenses: *accessible tourism* (demand-side participation and service provision) and *disability employment/inclusion* (supply-side workforce practices). Accessible tourism scholarship has argued for a systematic agenda that treats access as an essential element of sustainable tourism, not a niche add-on, and it has documented persistent structural barriers in infrastructure, service design, and managerial capability (Darcy, 2006; Darcy et al., 2010; Michopoulou et al., 2015). Furthermore, empirical literature highlighted that accessibility factors shape satisfaction among travelers with disabilities, reinforcing that disability is not solely a "special need" issue but a determinant of mainstream service performance and equity (Small et al., 2012; Tutuncu, 2017). Recent bibliometric reviews suggest rapid growth and diversification in accessible tourism research, indicating a maturing domain that can support conceptual integration with consumer behavior theories (Domínguez Vila et al., 2025; Qiao et al., 2022).

Workforce inclusion research predominantly focuses on the benefits and operational challenges of hotels employing PWDs, as well as the institutional/organizational conditions that facilitate inclusion. Early work in hospitality identifies both potential reputational gains (e.g., retention, organizational culture, CSR legitimacy) and barriers (e.g., perceived productivity concerns, lack of accommodation knowledge, stigma) (Bengisu & Balta, 2011; Jasper & Waldhart, 2013). The systematic literature review by Manoharan et al. (2024) confirms that disability employment in the hospitality industry is being shaped by multi-level factors including organizational policy (Houtenville & Kalargyrou, 2015). Qualitative work with employers similarly underscores perceived barriers and facilitators, including misperceptions about cost and performance, suggesting that the "competence" narrative remains a central obstacle to scaling inclusion (Hutchinson et al., 2024; Kalargyrou & Volis, 2014). Policy discourse analyses show that inclusion is often celebrated rhetorically but inconsistently operationalized in tourism workforce plans, reinforcing the need for research on stakeholder-level mechanisms, including consumers' mindset and support towards inclusion practices (Lu et al., 2025).

A smaller but highly relevant stream addresses *consumer response* to disability-inclusive staffing and service encounters. Foundational research such as Siperstein et al. (2006) on consumer attitude indicates that customers can respond positively to companies that hire PWDs,

but such positivity can be conditioned by perceptions of capability and fit. In hospitality sector specifically, guests' perceptions of service staff with disabilities are nuanced: consumers may express favorable moral attitudes while simultaneously applying competence-based stereotypes that influence perceived service quality and satisfaction (Gröschl, 2013; Kuo & Kalargyrou, 2014). More targeted hotel sector-based research demonstrates that disability cues can affect guests' evaluations of service quality delivery, and that service failure contexts can intensify stereotyping and quality judgments—directly implicating functional expectations as a key boundary condition (Awad et al., 2023; Kalargyrou et al., 2018; Kalargyrou et al., 2020). Complementary recent evidence on guests' responses to disabled frontline employees further indicates that consumer reactions involve both affective/moral elements and performance inferences, supporting the need to model moral–functional trade-offs rather than assuming unidirectional positivity (Kim et al., 2025; Rosenbaum et al., 2017). The broader service quality literature establishes that quality perceptions shape value, satisfaction, and intention—and that negative performance signals can exert disproportionately strong effects (Brady & Cronin, 2001; Chua et al., 2015; Cronin & Taylor, 1992; Parasuraman et al., 1988; Slevitch & Oh, 2010; Zeithaml, 1988). Social-psychological stereotyping frameworks are consistent with this pattern: inclusion may elevate warmth-based moral approval yet trigger competence-based scrutiny, producing mixed reactions that are particularly consequential in-service settings (Aaker et al., 2010; Cuddy et al., 2007; Williams & Aaker, 2002).

1.4. **Synthesis and Gap: Why an Integrated Moral–Cognitive Model with Functional Contingency is Needed**

Synthesizing these research streams yields a clear conceptual gap. Ethical and inclusive consumption research establishes that inclusion-oriented marketplace choices are morally meaningful and increasingly salient, but it also highlights the intention–behavior gap under constraints (Carrington et al., 2014; Vitell, 2015). Tourism behavioral research provides validated intention models (especially TPB) and growing integration with norm-based constructs, yet such integrations have been disproportionately applied to environmental sustainability rather than social inclusion ethics, and often fail to explicitly theorize how moral activation shapes attitudes and intentions in service settings (Han, 2021; Han & Hyun, 2017; Setiawan et al., 2020). Disability inclusion scholarship demonstrates both the normative importance and practical complexity of inclusive tourism and disability employment in hotels, while emerging consumer-side evidence indicates that guest responses are shaped by quality/competence inferences and can vary by disability cues and service context (Awad et al., 2023; Kalargyrou et al., 2020; Kim et al., 2025; Manoharan et al., 2024). In short, consumers may morally endorse disability inclusion, yet this endorsement does not automatically translate into hotel choice. A theoretical mechanism is therefore needed that integrates (i) moral activation, (ii) planned cognition, and (iii) perceived service quality as a functional boundary condition. The following Table 1 summarizes representative studies across the three literature streams and highlights the unresolved mechanism-level gap addressed by the proposed framework.

Table 1
Summarizing Key Literature Across the 3 Research Streams

Authors	Focal Phenomenon	Theory/Model	Key Findings	Implications & Future Research Direction
Kuo & Kalargyrou (2014)	Consumers' perspectives toward service staff with disabilities in hospitality sector (restaurants)	Disability-inclusive dining experience encounter in TPB lens (consumer perception and evaluation focus)	Demonstrates that disability-inclusive staffing is evaluated through capability/fit and situational basis during the service encounter.	Establishes the consumer-side foundation but leaves open which moral-cognitive mechanisms drive (or suppress) support intentions.
Kalargyrou & Volis (2014)	Disability inclusion initiatives by the leading hospitality companies (hotels and restaurants); how organizations implement inclusion	Qualitative study that positions PWD-inclusion as strategic/CSR initiative while identifying managerial drivers/barriers	Managers agree that PWD-hiring enhance their reputational value, but also concerns possible negative stereotyping from their customers.	Provides the industry-side inclusion reality and asks for research to analyze moral/cognitive reactions of the customers.
Carrington et al. (2014)	Ethical intention–behavior gap: why ethical consumers "don't walk their talk"	Qualitative study to explore Intention–behavior gaps (not directly employing any simple intention models)	Shows that ethical intentions can fail to translate into behavior due to contextual constraints and trade-offs.	Justifies adding boundary conditions/moderators (e.g., service-quality concerns) when modeling "pro-social" choice such as DEI-inclusive service context.
Han & Hyun (2017)	Moral activation in the context of pro-environmental museum visitor behavior	Extended Norm Activation Model with TPB constructs	Illustrates how NAM can be extended with context-relevant antecedents to better explain moralized intentions.	Supports the logic of tailoring moral activation to the inclusion context rather than treating NAM as "one-size-fits-all."
Kalargyrou et al. (2018)	Effect of different types of employee disability on guests' perceived service quality	Stereotyping/service-quality evaluation in a controlled-experiment	Indicates that perceived service quality and stereotyping can vary as a function of disability type cues, and guest's past exposure to PWDs.	Raises the open question: How consumer's moral support and disability awareness overrides quality heuristics. Reinforces the need to explicitly model moral–functional trade-offs rather than assuming stable pro-inclusion intentions.
Madera et al. (2023)	Need to bridge employee-side inclusion and customer-side responses in hospitality/tourism	Critical reflection of published literature/integrative agenda	Argues the field is fragmented across HR vs. marketing streams and calls for integrated, theory-driven approaches.	Provides an explicit mandate for frameworks like TPB–NAT integration that connect consumer's moral cognition to behavior.

Awad et al. (2023)	Analyzing the impact on customers from branding perspective, when tourism services hire PWDs of various disability types	Hiring PWDs as IV, and positive branding outcomes (loyalty, image, quality) as DVs	Hiring PWDs has a strong effect on reputational factors like brand image, but no significant impact on purchase intention.	Analyzed the branding outcomes directly but leaves open the moral-behavioral process that converts into consumer support intentions.
Manoharan et al. (2024)	Systematic review of disability employment in hospitality	Integrative evidence synthesis / agenda setting	Consolidates evidence and identifies persistent gaps, including limited theory-driven consumer-side modeling and contextual considerations.	Urged researchers to address the gaps empirically, employing theoretical and methodological rigors.
Kim et al. (2025)	Customer reactions to hotels employing PWDs as positive WOMs and repurchase intention	Online experimental study to analyze those positive behavioral outcomes via moral judgment (NAT-adjacent) and perceived CSR perspective	Explicitly operationalizes moral judgment as a driver of hotel-visit intentions in the disability-hiring context.	Confirms the "moral route" exists, but does not fully explain the moral activation process or quality-based boundary conditions.
The Current study	The visit intention of people from younger generations towards disability-inclusive hotels, while understanding the moral activation process behind it as well as behavioral constraints	Integrated TPB–NAT with a dual-route NAT activation (AC → AR → PN plus residual AC → PN), and perceived service quality (PSQ) moderation	Proposes that innate moral activation and behavioral cognition jointly shape intention, while service-quality expectations condition whether moral commitment persists.	Advances inclusion ethics in hospitality by specifying mechanisms + boundary conditions, and provides a testable agenda aligned with SDGs 8 & 10.

2. **Theoretical Framework**

Tourists' intentions to support hotels employing people with disabilities (PWDs) can be conceptualized as a form of ethically motivated consumption in hospitality, reflecting concern for justice, inclusion, and societal well-being rather than purely utilitarian evaluation (Shaw & Shiu, 2003; Vitell, 2015). However, hospitality sustainability research has largely prioritized environmental behaviors, with disability-inclusive employment receiving comparatively limited theory-driven attention from the consumer side (Han, 2021; Manoharan

et al., 2024; Yang et al., 2023). To address this gap, the present study advances a theory-based account that integrates moral activation and planned cognition by sequentially combining Norm Activation Theory (NAT) and the Theory of Planned Behavior (TPB), while recognizing that inclusion-support intentions may be contingent on expectations regarding service quality.

2.1. **Norm Activation Theory (NAT): Moral Activation and Personal Norms**

Schwartz's (1977) Norm Activation Theory (NAT) explains prosocial behavior by emphasizing internal moral obligation, conceptualized as personal norm, which is an individual's internalized sense of what ought to be done. These norms are activated when people become aware that their actions have consequences for others and when they perceive themselves as personally responsible for those consequences. Moral motivation, in this account, is not fixed but context-sensitive, emerging through situational awareness and responsibility attribution.

Prior research consistently frames this as a sequential process: consequence awareness heightens felt responsibility, which strengthens personal norms as the proximal moral driver of intention and behavior across pro-social and pro-environmental contexts (Bamberg & Möser, 2007; De Groot & Steg, 2009; Harland et al., 2007; Klöckner, 2013; Thøgersen, 2009). Norm activation research also indicates that anticipated moral emotions, such as guilt or pride, can reinforce this process by intensifying the motivational force of personal norms (Onwezen et al., 2013). In disability-inclusive hospitality settings, recognizing that inclusive employment advances dignity, equity, and opportunity for PWDs can therefore activate personal norms by increasing both perceived consequences and felt responsibility among the hotel visitors.

2.2. **Theory of Planned Behavior: Cognitive Evaluation and Behavioral Intention**

While NAT explains moral activation, the Theory of Planned Behavior (TPB) explains how cognitive evaluations translate into behavioral intention, particularly for behaviors involving deliberation and perceived control (Ajzen, 1985, 1991). TPB posits three immediate determinants of intention: attitude (overall evaluation of the behavior), subjective norm (perceived social pressure or approval), and perceived behavioral control (PBC) aka perceived capability and opportunity to perform the behavior. Hotel selection and support intentions are typically planned and constrained by feasibility (e.g., budget, access, booking channels), rendering TPB appropriate for modeling inclusive hotel choice as an intentional act rather than a purely habitual response.

In tourism and hospitality, TPB has demonstrated explanatory utility extensively across a range of sustainable and ethical behaviors, including green hotel choice and environmentally responsible lodging intentions (Han et al., 2010; Han et al., 2011; Han & Yoon, 2015). Related research has applied the TPB to responsible tourism and experience-based travel decisions, demonstrating that intentions are shaped by evaluative judgments, per-

ceived social expectations, and control-related constraints (Meng & Choi, 2016). While these applications confirm TPB's suitability as a behavioral framework in hospitality, they also point to a limitation: When the decision context is ethically salient—such as support for disability inclusion—models relying solely on cognitive predictors may be insufficient unless moral obligation is explicitly incorporated.

2.3. **Moral Norms as TPB Extensions: Justifying NAT–TPB Integration**

When behaviors are ethically salient, TPB benefits from the addition of moral predictors, particularly personal norm or moral obligation, which enhance predictive validity by capturing commitment beyond mere instrumental evaluation (Conner & Armitage, 1998). Classical empirical evidence, such as that of Parker et al. (1995) shows that personal norm variables can complement the TPB core by capturing moral commitment beyond just instrumental evaluation. More recent studies reiterate that moral norm is often a key driver of sustainable and ethical consumption intentions, sometimes operating as an upstream motivator or antecedent of TPB constructs, that shapes evaluative beliefs and intentions (Liu et al., 2020; Müller et al., 2021). Accordingly, integrating NAT and TPB is theoretically justified when the behavioral object is simultaneously moral and choice-based—exactly the case for consumer support for PWD-inclusive hotels.

2.4. **Sequential NAT–TPB Integration: Moral Activation as an Antecedent to Planned Cognition**

Although NAT and TPB have been employed frequently, many integrations treat them as parallel predictors of intention. This study advances a *sequential mechanism*: moral activation (NAT) is theorized to shape subsequent cognitive evaluation (TPB), thereby embedding moral obligation within planned decision-making. Precedent exists for combining the two theories in service sector and sustainability domains, demonstrating that integrated models can outperform single-theory explanations (Han & Hyun, 2017; Liu et al., 2017; Setiawan et al., 2020). Recent integration applications in other prosocial contexts (e.g., the case of Michael et al. (2024) in terms of recycling and responsible disposal) further signal the contemporary relevance of TPB–NAT integration, while newer sustainability models often blend value–norm mechanisms with planned cognition, reinforcing the broader legitimacy of sequential moral–cognitive pathways (Fan et al., 2025; Khan et al., 2025).

Therefore, within the proposed framework of this study, NAT constructs Awareness of Consequences (AC) and Ascription of Responsibility (AR) activate personal norms, which then inform TPB-related cognitive constructs. Specifically, personal norms are theorized to shape *attitude* toward supporting inclusive hotels by reframing the behavior as morally desirable and identity-consistent (De Groot & Steg, 2009; Liu et al., 2020; Parker et al., 1995). In other words, personal norms do not merely "add" a moral push (a common pathway in many previous NAT studies); they can reorganize evaluative beliefs so that inclusion support is experienced as ethically right, thus strengthening positive attitudes. This is con-

sistent with NAT's emphasis on internal moral obligation and with TPB extension logic that moral norms can precede or reinforce evaluative processes (Conner & Armitage, 1998; Müller et al., 2021; Thøgersen, 2009).

A further refinement concerns the relationship between *subjective norms* and *personal norms*. Norm-focused theories distinguish between external social expectations (subjective norms) and internalized moral obligation (personal norms), while recognizing that the former can gradually give rise to the latter (Cialdini et al., 1990; Helferich et al., 2023; Smith et al., 2008). Therefore, the proposed model includes a path from subjective norm to personal norm, reflecting the idea that social endorsement of disability support may be internalized into a personal moral duty—particularly in contexts where inclusion is normatively framed as socially desirable and just.

2.5. **Perceived Service Quality as a Contingent Condition: The Moral–Functional Trade-Off**

Although the proposed NAT–TPB sequencing infers that moral obligation and favorable cognition should enhance intention, hospitality choices remain subject to tourists' functional considerations, notably visitors' perceived service quality. In the services marketing literature, service quality is defined as consumers' evaluations of service performance and is closely linked to satisfaction, value assessments, and behavioral outcomes (Cronin & Taylor, 1992; Parasuraman et al., 1988). Quality perceptions are multidimensional and shape how consumers weigh service benefits against sacrifices, functioning as a key driver of choice and loyalty (Brady & Cronin, 2001; Zeithaml, 1988).

Therefore, perceived service quality is conceptualized as a boundary condition that determines whether moral and attitudinal motivations translate into intention. Evidence suggests that service quality interacts with other decision drivers and may exert asymmetric effects, such that negative performance signals disproportionately weaken satisfaction and behavioral intentions (Chua et al., 2015; Slevitch & Oh, 2010). Accordingly, modeling perceived service quality as a moderator captures the moral–functional trade-off inherent in disability-inclusive service contexts: support for inclusion is more likely to endure when quality expectations are met, but may weaken when service performance appears uncertain.

Moreover, hospitality research on consumer perceptions of employees with disabilities indicates that guests' evaluations can be shaped by stereotypes and assumptions about the capabilities of PWDs, sometimes varying by disability type and job role (Gröschl, 2013; Kalargyrou et al., 2018). Disability-related perceptions also intensify under service failure or demanding encounters, potentially amplifying competence judgments and depressing overall evaluations, as demonstrated by Kalargyrou et al. (2020). Customer responses to disabled frontline employees have similarly been examined in ways that emphasize the interplay between moral approval and service performance perceptions (Rosenbaum et al., 2017). Recent work further suggest that customer perspectives can differ by 'disability types' which can function as a boundary condition in evaluations of inclusive staffing (Awad et al., 2023).

Therefore, to theoretically ground the competence/quality inferences, stereotype frameworks can be useful. Warmth-competence research shows that morally positive initiatives may be seen as warm while simultaneously facing competence-based scrutiny—a dynamic directly applicable to disability-inclusive service settings, where ethical approval and performance expectations coexist (Aaker et al., 2010). The behavioral consequences of stereotype-based judgments are also theorized to translate into approach/avoidance tendencies towards certain group of people that can shape intention (Cuddy et al., 2007).

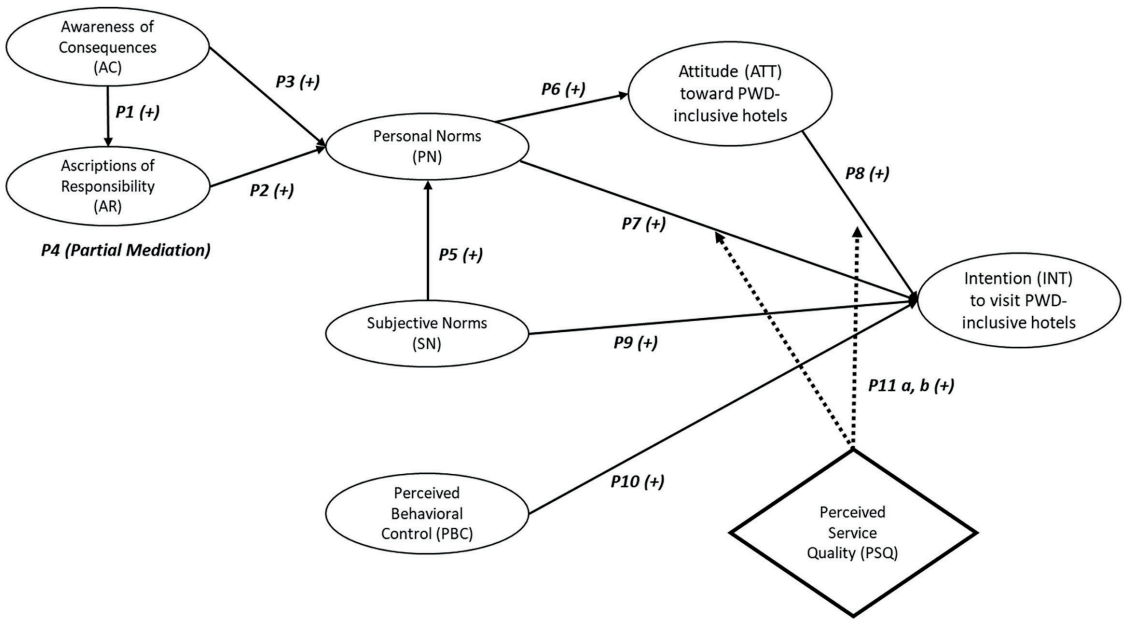
2.6. **Contextual Sensitivity: Relevance of Gen Z tourists and Emerging-Economy Settings**

The following conceptual framework is contextually more plausible for Gen Z consumers in emerging economies, where social inclusion is increasingly framed as both a moral and developmental priority. Generational research suggests cohort differences in value priorities and decision logics, justifying more research attention to Gen Z as a segment potentially sensitive to normative and ethical cues by brands (Monaco, 2018; Schewe & Meredith, 2004). Tourism studies also indicate that Gen Z travel decisions can be socially embedded and norm-responsive (Dimitriou & AbouElgheit, 2019). Contemporary scholarship further links Gen Z tourism-related intentions to injunctive norms and personal norms, supporting the relevance of subjective and personal norms in this cohort as well as strengthening the fit of the proposed norm-based sequencing (D'Arco et al., 2025). At a broader societal level, disability employment gaps and inclusion challenges remain salient in developing country contexts, reinforcing the practical relevance of theorizing consumer support for increasing inclusive employment practices (Mizunoya & Mitra, 2013).

3. **Conceptual Model and Propositions**

Figure 1 presents the proposed model integrating a dual-route Norm Activation mechanism with the Theory of Planned Behavior (TPB) to explain tourists' intention to visit PWD-inclusive hotels. Consistent with NAT, personal norms are activated when individuals recognize the consequences of their actions and accept responsibility for those outcomes. Prior NAT research also documents a direct path from consequence awareness to personal norms, even without complete responsibility attribution. Accordingly, the framework models dual-route activation: (i) a primary sequential pathway (AC → AR → PN) and (ii) a secondary direct pathway (AC → PN). This dual-route structure suits the PWD-inclusive hotel context, where some tourists develop moral obligation through deliberate responsibility attribution, while others respond to consequence salience more directly, without fully processing responsibility. (Bamberg & Möser, 2007; De Groot & Steg, 2009; Harland et al., 2007; Klöckner, 2013; Onwezen et al., 2013; Schwartz, 1977).

Figure 1
The conceptual framework of this paper: A TPB-NAT Integrated Model



Dual-route NAT activation (moral mechanism): Propositions

P1: AC positively influences AR.
P2: AR positively influences PN.
P3: AC positively influences PN (residual/direct activation route).
P4: AR partially mediates the effect of AC on PN (AC → AR → PN), alongside the direct AC → PN route.

The following propositions (P5–P10) specify how personal norms link moral activation to the core TPB constructs, forming the moral-to-cognitive bridge of the integrated model.

Next, the model embeds moral obligation within planned decision-making by bridging PN into TPB cognition and intention. TPB proposes that intention is shaped by attitude, subjective norm (SN), and perceived behavioral control (PBC); it is therefore well suited to hotel-choice contexts that are deliberative and constrained by feasibility (Ajzen, 1985, 1991). Extending TPB is recommended when behaviors involve moral content, as personal/moral norms can add explanatory power and can also shape evaluative beliefs (Conner & Armitage, 1998; Parker et al., 1995). Accordingly, PN is theorized to increase *attitude toward choosing PWD-inclusive hotels* (moral obligation reframes evaluation) (Fang et al., 2017), while also exerting a direct influence on intention (Liu et al., 2017; Setiawan et al., 2020). Further, SN is specified as both a direct predictor of intention and an antecedent to PN, reflecting *norm internalization*: perceived approval for disability inclusion can be internalized as a personal moral standard. PBC remains a core TPB determinant because even morally endorsed choices require perceived ability, opportunity, and access to enact the behavior (Ajzen, 1985, 1991; Conner & Armitage, 1998; Parker et al., 1995).

Moral-to-cognitive bridge and TPB intention formation: Propositions

P5: SN positively influences PN.
P6: PN positively influences attitude toward choosing PWD-inclusive hotels.
P7: PN positively influences intention to visit PWD-inclusive hotels.
P8: Attitude positively influences intention to visit PWD-inclusive hotels.
P9: SN positively influences intention to visit PWD-inclusive hotels.
P10: PBC positively influences intention to visit PWD-inclusive hotels.

Finally, the model introduces perceived service quality (PSQ) as a boundary condition that tests whether moral commitment and favorable attitudes translate into intention. In disability-inclusive settings, moral approval and performance uncertainty often coexist—this is the essence of the moral–functional trade-off. Moderation is especially relevant in disability-inclusive service settings because inclusion may elicit moral approval while also triggering competence or performance-related inferences that influence perceived quality. Evidence indicates that guests' responses to PWD employees can vary with disability cues and service context, affecting quality evaluations and behavioral intentions (Awad et al., 2023; Gröschl, 2013; Kalargyrou et al., 2018; Kalargyrou et al., 2020; Kim et al., 2025; Kuo & Kalargyrou, 2014; Pumpuni, 2022; Rosenbaum et al., 2017). Stereotype-based mechanisms provide an additional theoretical rationale for why the same morally desirable practice can be scrutinized on competence and performance dimensions, making PSQ a plausible moderator of both the PN → Intention and Attitude → Intention links (Aaker et al., 2010; Chua et al., 2015; Cuddy et al., 2007; Slevitch & Oh, 2010).

3.1. **Perceived Service Quality as a Boundary Condition: Propositions**

P11a: PSQ positively moderates the PN → Intention relationship.
P11b: PSQ positively moderates the Attitude → Intention relationship.

4. **Roadmap for Empirical Validation**

To facilitate future empirical validation of the proposed TPB–NAT framework, researchers may adopt a targeted theory-testing design that operationalizes moral activation (NAT) alongside planned cognition (TPB) and explicitly models the moral–functional trade-off via perceived service quality. A practical first step is a cross-sectional online survey (e.g., one in a developing and another in a developed country) that measures Awareness of Consequences (AC), Ascription of Responsibility (AR), and Personal Norms (PN) using established norm-activation operationalizations (e.g., De Groot & Steg, 2009) and measures Attitude, Subjective Norm, and Perceived Behavioral Control using standard TPB measurement guidance and item wording conventions (Conner & Armitage, 1998). Because the model theorises a service-context constraint, Perceived Service Quality (PSQ) should be assessed via a hospitality-appropriate perceived quality conceptualization (e.g., Brady & Cronin, 2001), and modeled as an interaction term moderating the PN → Intention and Attitude → Intention paths. To mitigate common method bias in self-report designs, future studies should combine

procedural remedies like anonymity, item separation, attention checks and related procedural remedies with statistical checks (Podsakoff et al., 2003). It may also use a marker-variable approach where appropriate (Lindell & Whitney, 2001). From an analytics standpoint, PLS-SEM is suitable when the goal is prediction, complex models with interactions, and robustness to non-normality; it also provides established reporting conventions for measurement and structural assessment (Hair et al., 2019). Given the cross-country or cross-generational intent, researchers should test measurement invariance prior to group comparisons; for composite-model contexts commonly used in PLS-SEM, the MICOM procedure is a defensible approach (Henseler et al., 2016).

5. **Discussion and Future Research**

5.1. **Theoretical implications**

This conceptual framework advances hospitality and tourism scholarship by repositioning disability-inclusive or PWD employment from a predominantly employer/HR discourse to a consumer ethical decision-making problem. While sustainability-oriented hospitality research has relied heavily on planned-behavior models often emphasizing pro-environmental choices social inclusion has received comparatively limited, mechanism-based theorizing on the demand side (Han, 2021; Han et al., 2010, 2011; Setiawan et al., 2020). By framing support for PWD-inclusive hotels as a moral–cognitive process, this framework responds to calls for theory-driven DEI research that foregrounds consumer mechanisms (Branca et al., 2024; Madera et al., 2023; Siperstein et al., 2006; Yang et al., 2023).

Second, it contributes by specifying a *dual-route moral activation* logic. Norm activation work commonly supports a sequential process from consequence awareness to responsibility ascription and then to personal norms, but empirical applications often vary in whether direct paths are retained. A dual-route specification is therefore theoretically defensible and pragmatically useful for a novel inclusion context, where consumers may respond to consequence salience with incomplete responsibility processing (Bamberg & Möser, 2007; De Groot & Steg, 2009; Harland et al., 2007; Klöckner, 2013). This refinement clarifies how moral obligation can operate as a proximal driver while still allowing for more heuristic moral judgments.

Third, introducing Perceived Service Quality (PSQ) as a boundary condition advances inclusion ethics research in service settings. Hospitality decisions are highly functional, and the hospitality-based service literature shows that quality perceptions shape value and satisfaction and can exert asymmetric effects (Brady & Cronin, 2001). In disability-inclusive encounters, guest evaluations may reflect both moral approval and competence/quality inferences, especially under service strain or failure (Kalargyrou et al., 2018, 2020; Kuo & Kalargyrou, 2014). Thus, PSQ is not a generic moderator; it operationalizes the theorized moral–functional trade-off that likely determines whether inclusion support persists.

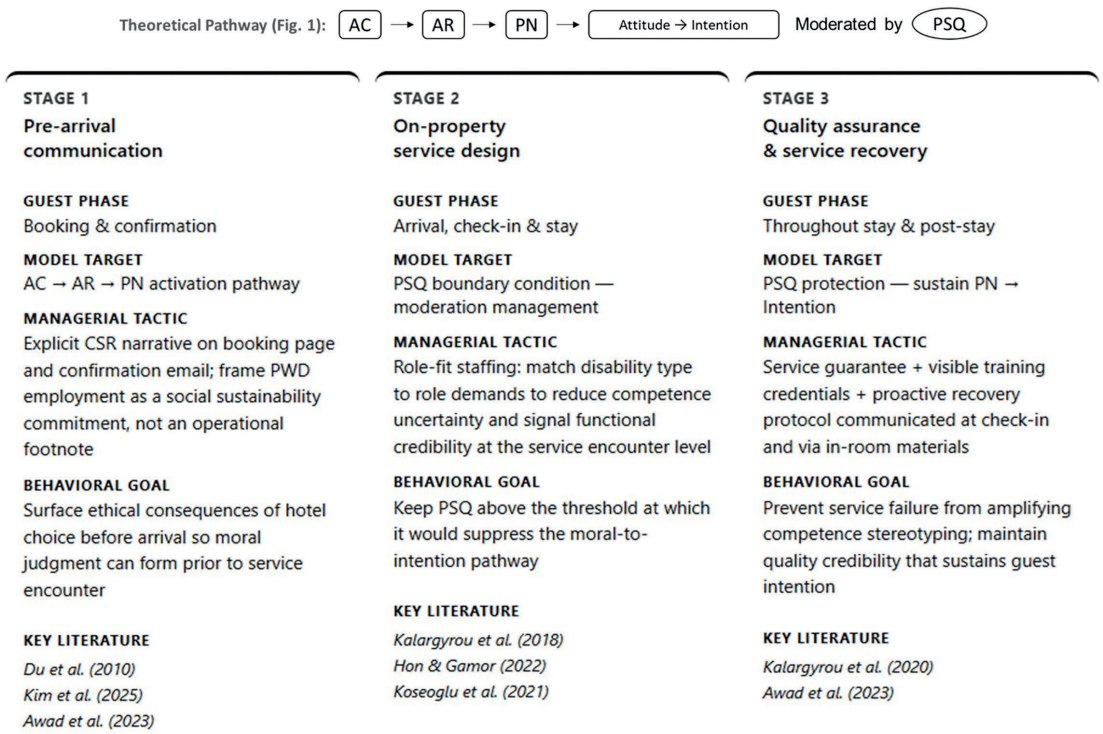
5.2. **Managerial and Policy Implications**

For hotel leaders, the framework implies that inclusion initiatives should be communicated as both (i) ethically consequential (activating awareness and responsibility) and (ii) operationally credible (protecting quality expectations). Evidence suggests that disability employment can shape guest perceptions and intentions, but that reactions may depend on disability cues and context (Awad et al., 2023; Kim et al., 2025). Managers should therefore pair inclusion messaging with visible service assurance: role-fit design, training, accommodation readiness, and service recovery protocols, given that service failures can amplify negative stereotyping (Hutchinson et al., 2024; Kalargyrou et al., 2020; Manoharan et al., 2024). For policymakers and destination bodies, the model suggests that consumer demand can be leveraged as a complementary mechanism to supply-side inclusion—aligning inclusive employment with destination reputation and social sustainability narratives, rather than treating it solely as compliance (Bellucci et al., 2023; Bengisu & Balta, 2011; Darcy & Pegg, 2011).

5.3. **Practical Illustration: Operationalizing the moral–functional trade-off**

To ground these implications concretely, consider a mid-scale hotel in an emerging-market destination employing persons with disabilities in guest-facing roles. Effective implementation unfolds in three coordinated stages. First, at the pre-arrival stage, explicit CSR framing on the booking platform and confirmation email activates the AC → AR → PN pathway by surfacing the ethical significance of the guest's hotel choice before arrival (Awad et al., 2023; Du et al., 2010; Kim et al., 2025). Second, on-property role-fit staffing (matching disability type to task demands) manages the PSQ boundary condition by reducing competence uncertainty at the encounter level (Hon & Gamor, 2022; Kalargyrou et al., 2018; Köseoglu et al., 2021). Third, throughout the stay, a service guarantee, visible training credentials, and a proactive recovery protocol prevent service failure from amplifying competence-based stereotyping—the mechanism that Kalargyrou et al. (2020) identify as the critical risk in disability-inclusive service contexts. Figure 2 maps all three stages against the model's constructs and their empirical grounding.

Figure 2
Three-Stage Implementation Strategy for PWD-inclusive Hotel Employment: Operationalizing the Moral–Functional Trade-off Across the Guest Journey



Note. AC = Awareness of Consequences; AR = Ascription of Responsibility; PN = Personal Norm; PSQ = Perceived Service Quality. Stages are ideally sequential but may overlap in operational contexts. Theoretical pathway refers to Figure 1 (integrated TPB–NAT conceptual framework).

5.4. **Future Research Agenda**

Upon the thorough review of literature related to disability-inclusive employment and guests' perceptions, four research clusters are found especially promising:

- **Causal designs and context manipulations:** scenario experiments varying (a) disability type and job role visibility (Awad et al., 2023), and (b) service failure vs. recovery conditions (de Matos et al., 2012; Kalargyrou et al., 2020).
- **Behavioral outcomes beyond intention:** conjoint/choice experiments on hotel selection, willingness-to-pay premiums, and word-of-mouth, extending intention work toward market behavior (Carrington et al., 2014; Yang et al., 2024).
- **Norm dynamics in Gen Z:** test injunctive norms, personal norms, and identity-related processes in younger cohorts where social signaling can be influential (D'Arco et al., 2025; Dimitriou & AbouElgheit, 2019; Monaco, 2018).
- **Cross-cultural and generational robustness:** compare moral activation and quality trade-offs across contexts using cross-country ethical belief insights and generational cohort segmentation logic (Auger et al., 2007; Schewe & Meredith, 2004).

In addition, the three-stage implementation strategy proposed in Figure 2 also warrants empirical scrutiny: field experiments or longitudinal service audits could assess whether pre-arrival CSR disclosure, role-fit staffing, and proactive quality assurance jointly moderate the moral-activation-to-intention pathway in real hotel contexts.

5.5. **Limitations and closing note**

As a conceptual contribution, this paper necessarily prioritizes theoretical coherence over empirical adjudication. First, the proposed causal ordering: dual-route moral activation (AC → AR → PN plus AC → PN) embedded upstream of TPB cognition remains to be validated against plausible rival specifications. For instance, disability-related competence and warmth inferences may operate as antecedents shaping attitude and perceived service quality rather than (only) as boundary conditions, and the strength of these inferences may vary by disability type, role visibility, and service encounter context (Awad et al., 2023; Kalargyrou et al., 2018, 2020; Kuo & Kalargyrou, 2014). Second, the framework is intention-focused; yet the ethical consumption literature cautions that intentions can fail to translate into real choices when convenience, uncertainty, and perceived risk intervene—concerns that may be amplified in hospitality due to high experiential stakes as noted by Carrington et al. (2014). Third, although the model is designed for the tourists/hotel visitors in general, cross-cultural and cohort effects are not explicitly theorized; future work should test measurement invariance and institutional sensitivity rather than assuming portability (Auger et al., 2007; Dimitriou & AbouElgheit, 2019). Similarly, the three-stage managerial strategy (Fig. 2) is theoretically derived rather than empirically validated; its feasibility and sequencing may vary by hotel tier, disability type, and destination market context.

Despite these limitations, the frameworks offer a timely agenda: it responds to calls for theory-driven disability inclusion research that bridges workforce practices and customer behavior and broadly clarifies how inclusive hospitality can be supported without neglecting the functional realities of service quality and provides practitioners with literature-grounded guidance.

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EQUITABLE ACCESS TO PUBLIC DOMAIN CULTURAL HERITAGE: POLICY, PRACTICE AND THE OPEN HERITAGE STATEMENT

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Abstract

Despite the rapid pace of digitalisation, barriers such as legal, technological, economic, and socio-cultural constraints continue to limit equitable access to cultural heritage in the public domain. These obstacles hinder people's right to participate in and benefit from cultural life, weakening our collective ability to connect with the past and shape the future. In the digital era, Galleries, Libraries, Archives, and Museums (GLAMs) play a key role in providing open access to their collections. Yet, with only about 1% of institutions able to do so effectively, achieving equitable access remains a challenge (Wallace, 2020). Open access, defined as access free of charge and free from unnecessary copyright restrictions, offers a pathway to overcome these barriers (UNESCO, n.d.). By adopting open licences, tools, and good practices, GLAM institutions can make their collections more visible, reusable, and impactful, strengthening public engagement and ensuring the sustainable preservation of heritage (Wallace & Weinberg, 2023). Creative Commons (CC), through its open licences and public domain tools, has long advocated for equitable access to cultural heritage. In 2024, CC launched the Open Heritage Coalition (formerly known as TAROCH-Towards a Recommendation on Open Cultural Heritage) (Open Heritage Statement, 2025c). Together with over 60 organisations across 25 countries, including Creative Commons Türkiye (CC Türkiye), the Coalition developed the Open Heritage Statement, which calls for equitable access to public domain heritage and invites the United Nations Educational, Scientific and Cultural Organization (UNESCO) to adopt a framework to establish shared principles for access and provide guidance to GLAM institutions. CC Türkiye works in close collaboration with the Digital Cultural Heritage Network (DCHN) (Dijital Kültürel Miras Ağı, DKM Ağı) in the country, where both represent their respective volunteer communities and provide space for broader engagement and contribution to better sharing practices. This paper examines policy frameworks and best practices, with a focus on how the Open Heritage Statement can guide GLAM institutions in Türkiye and beyond in advancing open access, reducing barriers, and fostering inclusive cultural participation.

Keywords

Equitable Access, *Open Access*, *Open Heritage*, *Public Domain*, *Digital Cultural Heritage*

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Equitable access to cultural heritage is fundamental to human rights, particularly the right to participate in cultural life as cherished in international declarations and frameworks (UNESCO, 2001; United Nations, 1948, 1966). The access gap extends far beyond institutional concerns. Barriers that obstruct individuals from engaging with their cultural legacy degrade collective memory, restrict educational opportunities, and weaken the democratic basis of cultural participation.

Open access refers to access that is free of charge and free from unnecessary copyright or related restrictions, providing a pathway to overcoming barriers to the use of cultural heritage. In the context of heritage materials, open access means that heritage works and their associated metadata are made as accessible as possible, enabling anyone to access, use, reuse, and share them, including for commercial purposes and modification, without cost or undue legal or technical constraints. At the same time, open heritage does not seek to impose openness on heritage that communities of origin or traditional custodians have not intended to be shared, particularly where cultural, ethical, or customary governance frameworks apply (Vézina & Harris, 2025a).

GLAM institutions play an important role in this landscape. As custodians of cultural heritage, they possess the potential to democratise access through digital platforms and open licensing practices. However, reality falls short of this potential. Research suggests that only about 1% of GLAM institutions worldwide successfully provide open access to their collections (Wallace, 2020). While some institutions have embraced open access frameworks by adopting Creative Commons open licences and implementing best practices for digital sharing, many others continue to struggle with risk-averse copyright policies, insufficient resources, or a lack of clear guidance on navigating the complex legal and technical landscape of digital cultural heritage.

Long-advocated open movement and better sharing practices, together with participating, equitable access to cultural heritage, took shape in the Open Heritage Statement, launched in October 2025, offering a potential transformative intervention. It was developed by the Open

Heritage Coalition and signed by over 60 organisations, including CC Türkiye. The Open Heritage Statement calls for a global framework and invites UNESCO to adopt a recommendation promoting open access to public domain cultural heritage (Open Heritage Statement, 2025c). This paper discusses how this international advocacy effort might translate into concrete policy shifts and practical improvements within Türkiye's GLAM sector.

The paper addresses three central questions: First, what obstacles prevent equitable access to public domain cultural heritage? Second, how do international frameworks such as UNESCO recommendations and advocacy initiatives shape policy directions and institutional practices? Finally, how can the work of the Open Heritage Coalition and the Statement inform and strengthen access strategies in Türkiye, considering the country's local cultural, legal, and institutional landscape?

The scope of this work is specifically limited to cultural heritage materials that are in the public domain (Turkish; kamu malı), where legal barriers to reuse should not exist but often persist in practice due to institutional policies, technical restrictions, or risk-averse interpretations of copyright law. The term 'public domain' refers to works that are no longer protected by intellectual property rights such as copyright, trademark, or patent (European Innovation Council and SMEs Executive Agency, 2020). It does not address access to copyrighted works or licensing models for in-copyright content, except where relevant for contextual comparison.

Methodologically, the analysis is qualitative and policy-oriented, drawing on international frameworks, advocacy initiatives, and documented institutional practices rather than empirical user research or quantitative impact assessment. The aim is to examine structural and normative conditions that shape access to public domain cultural heritage and to identify pathways for institutional and policy reform.

The institutional examples discussed in Section 2.2 are selected as illustrative cases rather than as a statistically representative sample of Turkish GLAM institutions. They were chosen strategically to demonstrate the different types of access conditions observable on publicly available digital cultural heritage platforms in Türkiye. Selection criteria included the following: (1) The digital visibility of the platform or collection, (2) the presence of digitised cultural heritage materials and associated metadata, and (3) the relevance of the case for illustrating specific dimensions of openness discussed in the literature, such as access login barriers, clarity of rights statements, interoperability, use of open licences, reuse conditions and availability of machine-readable metadata.

The examples therefore serve an analytical purpose, highlighting recurring structural patterns and practical challenges in the implementation of open access to cultural heritage, while also identifying emerging good practices. They should therefore be understood as illustrative examples of broader tendencies within parts of the sector, rather than as a comprehensive mapping of initiatives or a basis for generalisable findings about Turkish GLAM institutions as a whole.

1. **Global Trends, Policy Frameworks and Advocacy**

'Equitable access to cultural heritage' refers not only to the ability to view or consume cultural materials but also to the ability to reuse, reinterpret, and contribute to cultural knowledge on fair and inclusive terms. This concept is closely linked to cultural participation, recognised as a human right under Article 27 of the Universal Declaration of Human Rights, Article 15 of the International Covenant on Economic, Social and Cultural Rights and Article 5 of the Universal Declaration on Cultural Diversity (UNESCO, 2001; United Nations, 1948, 1966). In the digital context, equitable access depends on whether cultural heritage materials, particularly those in the public domain, are made available without unnecessary legal, technical, or economic restrictions.

The public domain plays a central role and represents a shared cultural space where works are free from copyright protection and can be accessed and reused by anyone. However, the public domain is not automatically accessible in practice. In this context, copyright is sometimes incorrectly asserted over materials that are in fact in the public domain or not eligible for protection, often due to legal overreach or attempts to control access or misunderstanding. Digitisation, licensing choices, and institutional policies determine whether public domain materials remain truly open or become re-enclosed through restrictive terms of use (Communia, 2010; Samuelson, 2006; Vézina & Harris, 2025b).

Despite advances in digitalisation, multiple barriers continue to limit open and equitable access to cultural heritage. Legal barriers include unclear copyright status, overly cautious risk management, and the use of contractual restrictions on public domain materials. Technological barriers involve limited digital infrastructure, a lack of interoperable systems, and inaccessible platforms. Economic barriers stem from insufficient funding for digitisation and long-term preservation, while sociocultural barriers include language, representation, and uneven digital literacy (Europeana, 2020; Novák et al., 2023; Seaton et al., 2023; Terras, 2015; Trognitz et al., 2024).

Equitable access highlights that removing fees alone is insufficient. Open access can help address these barriers when it is combined with open licences, inclusive designs, and policies that actively consider who is able to benefit from digital cultural heritage. Without such an approach, digitisation risks reinforcing existing inequalities rather than reducing them (Terras, 2015; Wallace, 2023).

GLAM institutions are key intermediaries between cultural heritage and the public. As trusted custodians, they shape how heritage is preserved, interpreted, and shared. Globally, some GLAM institutions have adopted open access policies, releasing high-resolution digital collections under Creative Commons licences or public domain tools. These efforts have demonstrated increased visibility, reuse, and public engagement. However, such practices remain the exception rather than the norm. Wallace (2020) estimates that only around 1% of GLAM institutions worldwide have the resources, legal clarity, and institutional support to implement open access effectively. This uneven landscape illustrates the importance of shared standards, policy guidance, and international advocacy.

Creative Commons has played a long-standing role in promoting open access to cultural heritage through its licences and public domain tools, including CC0 and the Public Domain Mark. These tools provide legal clarity and reduce friction for reuse, enabling institutions to share their collections more confidently and consistently.

Building on this work, the Open Heritage Coalition (formerly known as the TAROCH [Towards a Recommendation on Open Cultural Heritage] Coalition) emerged as a community-driven advocacy network aimed at advancing open access to public domain cultural heritage at a global level. The Coalition brings together GLAM institutions, civil society organisations, and open knowledge advocates to articulate shared principles and policy demands.

UNESCO plays a critical role in shaping global norms related to culture, heritage, and access to knowledge. Its existing instruments, such as the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO, 2024) and the 2015 Recommendation concerning the Protection and Promotion of Museums and Collections (UNESCO, 2015), provide a foundation for open access discussions but do not yet establish a clear framework for public domain digital heritage. In 2021, UNESCO adopted the Recommendation on Open Science, the first international standard-setting instrument aimed at making scientific knowledge more accessible, inclusive, and reusable for all (UNESCO, 2021). The Recommendation outlines shared values and principles for open science, such as equity, inclusion, transparency, and international cooperation, and calls on Member States to develop enabling policy environments, invest in open infrastructures and capacity building, and promote broad access to scientific information. Although focused on scientific research, the Recommendation on Open Science reinforces global norms for open access to knowledge and informs efforts to articulate similar international expectations for public domain cultural heritage, helping bridge policy gaps in the digital era.

Through the Open Heritage Statement, the Open Heritage Coalition calls for equitable access to public domain heritage and explicitly advocates for an international dialogue toward a UNESCO recommendation that affirms open access to public domain cultural heritage as a global norm. Such a recommendation could help shape national policies, encourage change in institutions, and grant GLAM institutions the legitimacy they need to adopt fair, open access practices.

Internationally, good practices include adopting open-by-default policies for public-domain works, applying standard open licences, investing in interoperable and high-quality metadata, and engaging communities in co-creation and reuse. Cultural and Creative Industries (CCIs) are also significantly affected by digital transformation, and cultural and digital rights play an important role in enabling the development of innovative and socially valuable applications (Delfin, 2021; Europeana, 2013). Governments and cultural heritage organisations increasingly support open government and open data initiatives, and institutions such as the Rijksmuseum (The Rijksmuseum, 2024), Europeana partners, and the Smithsonian (Smithsonian Institution, n.d.) have demonstrated that open access can coexist with sustainability and core institutional missions. Together, these examples provide practical reference points for adaptation across different national contexts.

2. **National Context: Open Access to Cultural Heritage in Türkiye**

2. 1. **Policy and Regulatory Environment**

Open access is an important area of development across research and academic environments, the GLAM sector, and the arts and creative industries; in Türkiye, however, its adoption has evolved unevenly across these fields. The idea of developing a national open access policy and coordinating open access initiatives and institutional repository practices in Türkiye was first articulated at the Akademik Bilişim 2006 BilgiTek IV. Conference in Denizli, Türkiye, held at Pamukkale University on 9–11 February 2006 (Bulut et al., 2020). Following this initial articulation, from 2006 onwards, several academics published research on open access, and professional organisations such as the Anatolian University Libraries Consortium (Anadolu Üniversite Kütüphaneleri Konsorsiyumu, ANKOS) and the University and Research Librarians' Association (Üniversite ve Araştırma Kütüphanecileri Derneği, ÜNAK) established working groups to advance open access practices. In parallel, national bodies including the Scientific and Technological Research Council of Türkiye (Türkiye Bilimsel ve Teknolojik Araştırma Kurumu, TÜBİTAK) and the Turkish Academic Network and Information Center (Ulusal Akademik Ağ ve Bilgi Merkezi, ULAKBİM) undertook initiatives related to open access (Karasözen & Zan, 2010).

To date, discussions and initiatives around open access have largely been framed through the lens of academic publishing, focusing on journal articles, theses, and research data, while the implications of openness for cultural heritage collections and their associated metadata have received far less attention at the policy level. Key policy instruments shaping the national open science agenda, such as TÜBİTAK's Open Science Policy and the Turkish Higher Education Council's Roadmap for Higher Education towards 2030, similarly focus on scholarly communication and research outputs, with little explicit engagement with the research and cultural value of heritage collections (TÜBİTAK, 2019; YÖK, 2025). As a result, open access is often perceived primarily as an issue of scholarly publishing rather than as a broader framework applicable to GLAM institutions, contributing to the slow and fragmented uptake of open heritage practices across the sector (Öztemiz, 2016).

Türkiye's GLAM sector is rich and diverse, encompassing state-run museums, municipal archives, university libraries and archives, foundations, and private collections (Dağıstan Özdemir, 2005; Kültür Varlıkları ve Müzeler Genel Müdürlüğü, n.d.) These institutions hold globally significant cultural heritage, yet digitisation and access strategies vary widely. Many institutions prioritise preservation and physical accessibility, while digital access and reuse remain secondary concerns (Dişli & Tonta, 2023; Çakmak & Yılmaz, 2012).

The legal framework governing open access to cultural heritage in Türkiye includes copyright law (5846 Fikir ve Sanat Eserleri Kanunu (FSEK) [Law on Intellectual and Artistic Works]) (Fikir ve Sanat Eserleri Kanunu, 1951), regulations on museums and archives, and institutional

policies. Ambiguities around copyright duration, orphan works, and digitised public domain materials often result in restrictive access practices. Technically, many institutions lack the infrastructure or expertise needed for large-scale digitisation and open publishing. Financial constraints further limit long-term planning and sustainability (Öztemiz, 2016).

Limited awareness of open licensing and risk-averse institutional cultures compounds barriers to open access within the local context. At the same time, opportunities exist through growing interest in digital heritage, international collaboration, and grassroots initiatives. The absence of a national open access policy for cultural heritage creates both challenges and space for bottom-up advocacy.

In terms of legal and licensing challenges in the local context, lack of a bespoke statute in the FSEK for heritage digitisation and access (Öztemiz & Önal, 2017) creates ambiguity around what GLAM institutions can openly release (e.g., digitised manuscripts, photographs) and which licences are safe to use.

Studies highlight insufficient infrastructure, funding, and national-level coordination, as well as standards that slow digitisation and consistent metadata practices (Atalan Çayırezmez et al., 2021). These constraints make sustainable open access, including hosting, preservation, and rights clearance, particularly challenging to maintain.

2. 2. **Barriers, Limitations, and Good Examples**

At the national level, the Ministry of Culture and Tourism of Türkiye has undertaken substantial and long-term work to document both tangible and intangible cultural heritage through the development of national and local inventories, including the National Immovable Cultural Heritage Inventory System (Tescilli Kültür Varlıkları Taşınmaz Ulusal Envanter Sistemi, TUES). TUES is a centralised web-based Geographic Information System (GIS) that facilitates cross-querying of protected areas (archaeological, urban, or historical), monuments and registered historical edifices, Conservation Council decisions, and archival documents across all provinces of Türkiye. The objective of this project is to catalogue the immovable cultural assets of Türkiye within a web-based GIS system for the Ministry of Culture and Tourism and other national governmental entities (Boz et al., 2014).

The National Museum Inventory System (MNIS; Müze Ulusal Envanter Sistemi, MUES) serves as a unified database for movable cultural assets held in archaeological and ethnographic museums. The system includes dedicated modules for storing and managing information related to excavations, exhibitions, restoration, and conservation activities throughout the life cycle of museum objects. The preliminary phases of the project have been completed, and museum staff are currently entering inventory records into the system, while personnel in restoration laboratories are documenting information related to associated projects. Additional MNIS modules addressing excavation and exhibition processes are currently under development (Atalan Çayırezmez et al., 2021).

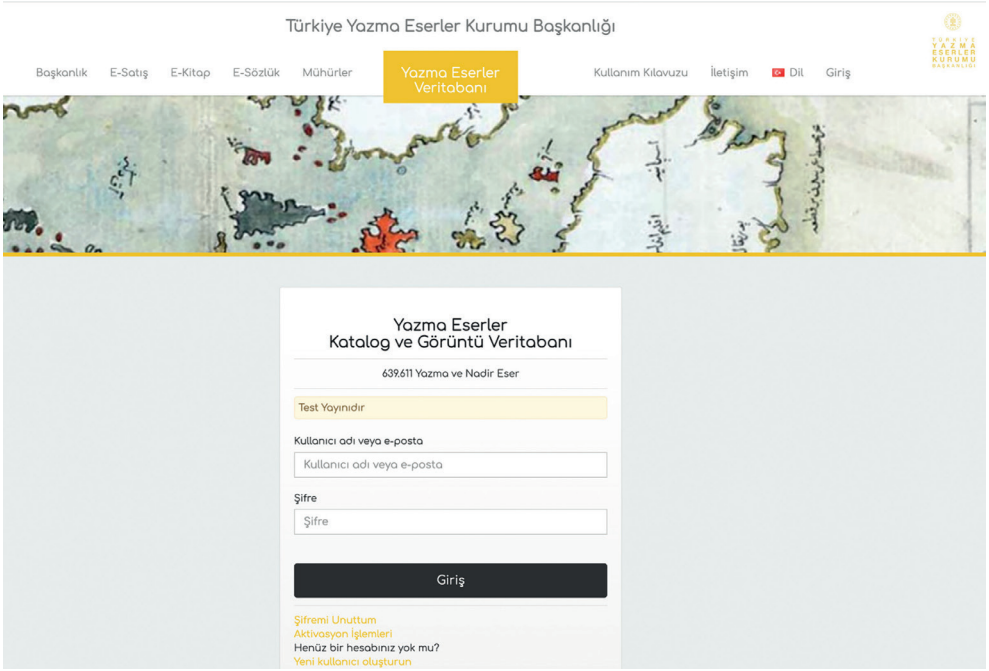
In parallel, the Türkiye National Inventory of Intangible Cultural Heritage (Somut Olmayan Kültürel Miras Türkiye Ulusal Envanteri) provides information on intangible cultural heritage. The Ministry of Culture and Tourism currently makes a limited subset of this information publicly available through a web interface in spreadsheet format (T.C. Kültür ve Turizm Bakanlığı, n.d.).

The online presentation of museum data reflects existing institutional and digital inventory practices. Museum-related data are disseminated through the websites of the General Directorate of Cultural Assets and Museums and the General Directorate of Fine Arts under the Ministry of Culture and Tourism, as well as through digital platforms such as the Türkiye Culture Portal, Türkiye'nin Müzeleri, and Turkish Museums. However, an examination of the metadata practices used across these platforms reveals significant variation in metadata structures and the absence of a common standard for describing museum objects. This lack of interoperability hinders the consistent representation of museum data and limits the ability to establish meaningful semantic connections between concepts. Consequently, links across museum information systems remain weak, and they constrain access to accurate, current, and reusable data. In this context, there is a clear need for a standardised metadata framework to strengthen the digital visibility, interoperability, and representation of museums (Çit, 2025).

These efforts represent an important step toward safeguarding cultural heritage in line with UNESCO guidelines. However, while such inventories are created and maintained within institutional systems, they are generally not publicly accessible, and the metadata describing heritage assets is rarely shared in reusable or machine-readable formats. Concerns related to looting, illicit trafficking, and site protection understandably shape these practices, especially in the case of vulnerable heritage. By contrast, some municipal initiatives—most notably the Istanbul Metropolitan Municipality's Cultural Heritage Inventory Project—explicitly aim to consolidate archival records into a searchable digital database and to make this information available for shared public access. At present, however, the portal appears to reflect an ongoing initiative that has not yet been fully completed (İBB Kültürel Miras, n.d.).

Another example of restricted access at the national level is the Yazma Eserler Veritabanı (Manuscript Works Database) (Fig. 1), developed by the Presidency of Manuscripts Institution of Türkiye. Although the database aggregates catalogue records for nearly 600,000 manuscript and printed works and provides digital images for approximately 400,000 items drawn from 24 libraries, access to both metadata and digital surrogates is contingent upon user authentication (Türkiye Yazma Eserler Kurumu Başkanlığı, 2015). The metadata and the digital content can't be accessed without logging into the system, as illustrated in the figure below, effectively limiting public discoverability and reuse (Türkiye Yazma Eserler Kurumu Başkanlığı, 2026). This access model is a form of digital gatekeeping that stands in tension with open access principles, particularly where publicly funded digitisation initiatives are concerned. While concerns that might be related to conservation, security, and misuse may inform such restrictions, the absence of openly accessible metadata or clearly articulated access policies constrains the database's potential contribution to broader open cultural heritage ecosystems.

Figure 1
Login Interface of the Manuscript Works Database (Turkish: Yazma Eserler Veri Tabanı)



Note: The interface demonstrates restricted access to metadata and digital content through mandatory user authentication. This interface was developed by the Presidency of the Türkiye Manuscripts Institution (Türkiye Yazma Eserler Kurumu Başkanlığı, n.d.).

From an open heritage perspective, greater transparency at the level of non-sensitive metadata, such as descriptive information, geographic generalisation, or contextual narratives, could significantly enhance public participation, education, and intergenerational transmission, without undermining protection objectives. As articulated in the Open Heritage Statement, access to public domain heritage supports the right to participate in cultural life, strengthens community connection, and enables new forms of learning and creativity. Making cultural heritage inventories more openly discoverable would not only support international visibility and research collaboration but also allow younger generations to connect their past to the future through shared digital knowledge infrastructures, reinforcing cultural continuity while respecting ethical and security considerations.

Pockets of openness and good practices exist in the country. Some examples include but are not limited to the British Institute at Ankara (BIAA), the Grand National Assembly of Türkiye (GNAT) (Türkiye Büyük Millet Meclisi, TBMM) (Fig. 2), Koç University Libraries (Fig. 3), Sabancı Museum's digital SSM, and Salt Research. The following figures include a selection of screenshots illustrating examples of good practices on these institutions' digital portals.

Figure 2

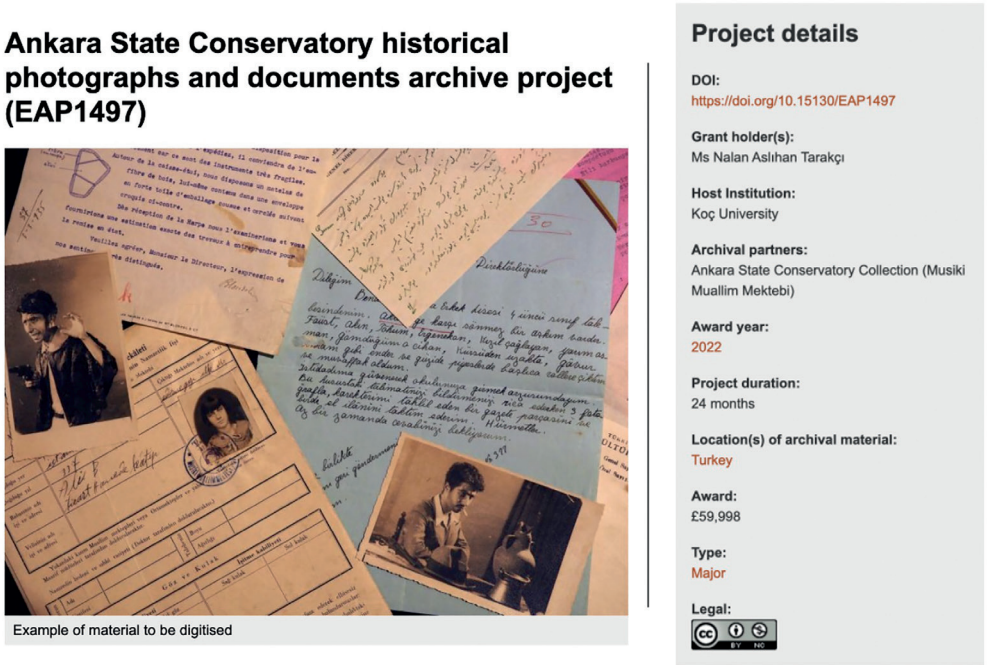
Search Results From the Maps Collection in the GNAT Open Access Archive



Note. Screenshot of search results from the Maps collection. From Open Access Archive, by the Grand National Assembly of Türkiye (Grand National Assembly of Türkiye, n.d.).

Figure 3

Ankara State Conservatory Historical Photographs and Documents Archive Project (EAP1497)

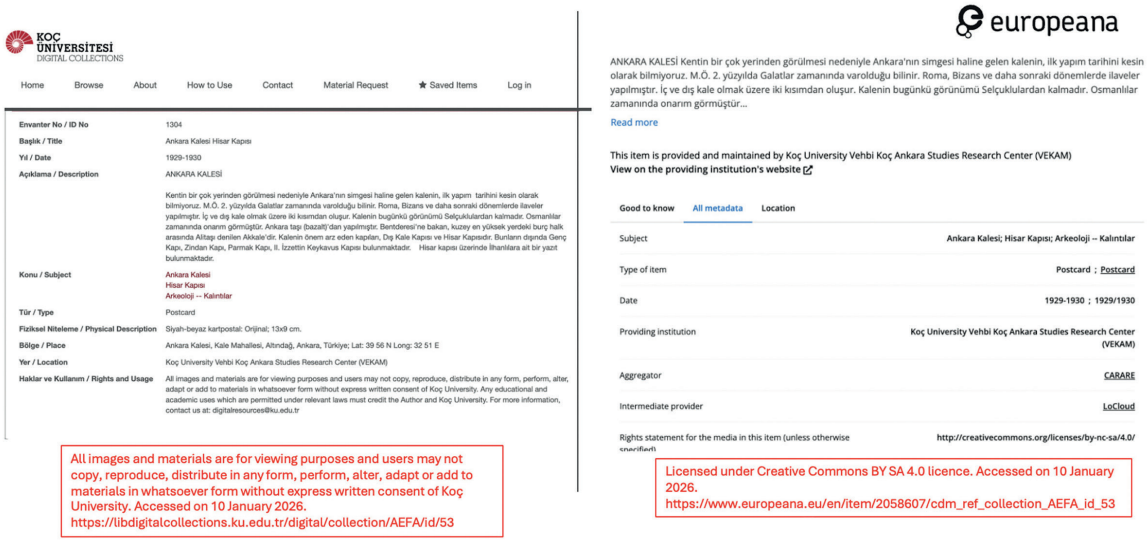


Note: This project digitises the historical archives of the Ankara State Conservatory. The original materials are held at Koç University. This project is supported by the Endangered Archives Programme, which is managed by the British Library (British Library, n.d.).

They all run sizeable digital collections and advocate for open access and data management, yet policies and licensing still vary by institution, underlining the lack of a national, harmonised open strategy in GLAMs (Sahar, 2025). These examples also illustrate some of the structural limitations that persist even within recognised good practices. While several institutions operate substantial digital collections and publicly endorse open access, rights information is often inconsistently communicated across platforms. Institutional portals often lack clear rights statements or licence-based filtering, which hinders users' comprehension of reuse conditions. For example, although collections from Türkiye are contributed to Europeana, Europe's digital cultural heritage portal, objects indexed under Creative Commons licences may appear on institutional websites with generic "all rights reserved" statements or without any machine-readable licence metadata (Fig. 4).

Figure 4

Example of inconsistent licensing information in the metadata of the same work (Ankara Kalesi Hisar Kapısı) from Koç University's Vehbi Koç Ankara Studies Research Center (VEKAM) collection.



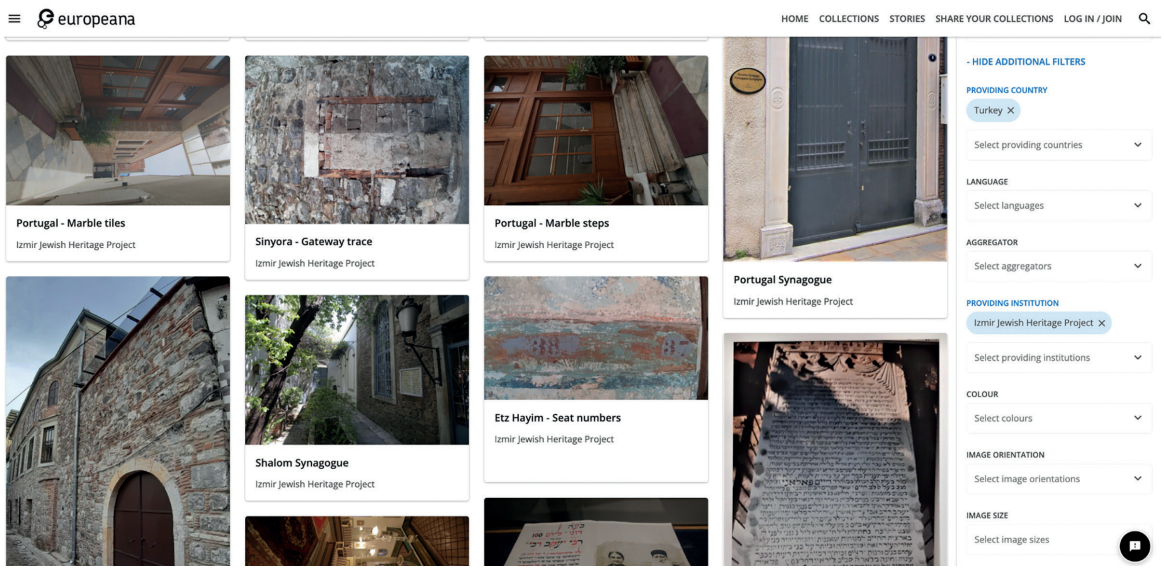
Note: The comparison illustrates discrepancies in licensing between the institution's portal (left) and the Europeana Pro portal (right). The left record is from VEKAM Digital Archive by Koç University (Koç University Digital Collections, n.d.). The right record is from Europeana Pro (Europeana, n.d.a).

This disconnection between aggregation platforms and local portals, combined with the discontinuation of some institutional participation in Europeana, underscores ongoing challenges related to rights clarity, metadata harmonisation, and a long-term commitment to open dissemination. These inconsistencies reinforce the need for coordinated national strategies and clearer institutional policies to translate openness into reliable, user-facing practice.

Despite challenges such as wrongly applied copyright to digitised heritage or technical restrictions to access heritage, which are both explicitly covered in the Open Heritage Statement, there are existing good practices in Türkiye demonstrating that digitisation can proceed without imposing new copyright claims on public domain works. For instance, the

Izmir Jewish Heritage Project (2021), funded partly by the European Commission and supported by local & international partners shows that digitising cultural heritage can preserve the public domain rather than enclosing it behind new copyright claims. As part of its wider effort to restore and sustain Izmir's unique complex of 16th-century Sephardic synagogues, the project has made public-domain archival materials openly available through Europeana (Fig. 5), where 99 items are accessible for discovery and reuse. By sharing digitised heritage linked to a living monument and a once-thriving Jewish community, the project connects architectural preservation with digital openness and supports research, education, and intercultural dialogue. The Izmir Jewish Heritage Project demonstrates that safeguarding minority heritage and keeping digital heritage open can advance together, ensuring that cultural memory remains shared, visible, and reusable across borders.

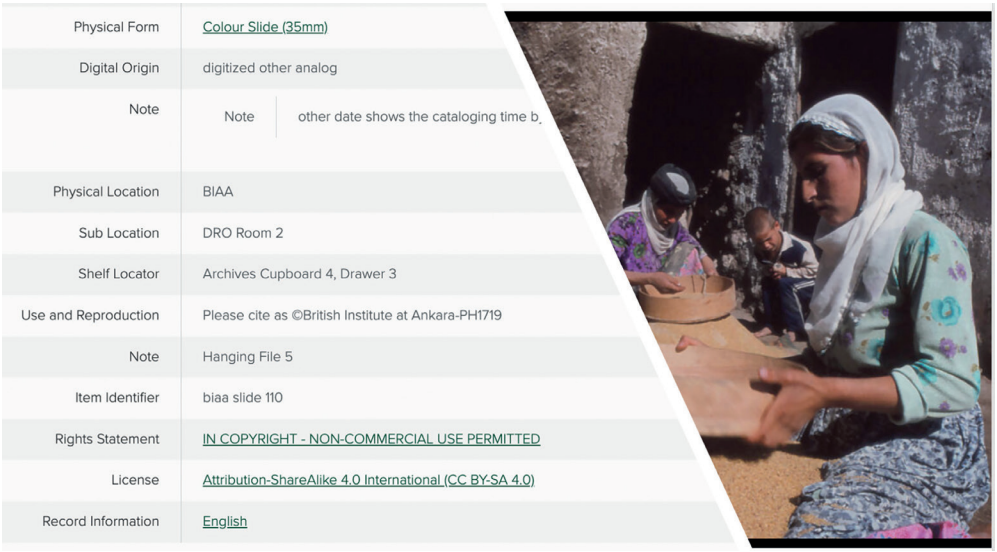
Figure 5
Screenshot of public domain works from the Izmir Jewish Heritage Project on the Europeana Portal.



Note: Screenshots of Izmir Jewish Heritage Project (2021) search results for public domain works are retrieved from Europeana (Europeana, n.d.b).

The British Institute at Ankara Digital Repository, launched in 2023, also provides an example of good practice in open access to cultural heritage and research data through its explicit adoption of FAIR (Findable, Accessible, Interoperable, and Reusable) principles and its systematic integration of rights and licensing information (Atalan Çayırezmez et al., 2021; British Institute at Ankara, n.d.a). Built on open-source infrastructure, the repository makes digitised and born-digital research outputs openly available and clearly communicates reuse conditions through Creative Commons licences and standardised rights statements. Individual records demonstrate particular strength in rights transparency, as in the example given in Figure 6.

Figure 6
The record "Two Women Sifting Grain with Child (PH1719)". (British Institute at Ankara, n.d.b)



Note. The record presents licence information in both human-readable and machine-readable formats, supporting user comprehension as well as interoperability with external platforms.

Taken together, these examples illustrate both the diversity of access conditions currently observable across Turkish GLAM institutions and the range of approaches being adopted with regard to openness, rights management, and reuse. While these cases provide valuable insights into emerging practices and persistent barriers, they are intended as illustrative examples rather than representative evidence of the sector as a whole. Further research and broader empirical assessment would be needed to determine the prevalence of these patterns across different institutional contexts.

2.3. **Community and Civil Society Actors in Open Cultural Heritage**

Several stakeholders contribute to the open cultural heritage ecosystem in Türkiye, including civil society organisations, academic networks, and volunteer communities. These actors play an important role in knowledge-sharing, advocacy, and experimentation, often filling gaps left by formal institutions.

CC Türkiye promotes the awareness and use of open licenses, supports institutions and individuals, and connects local efforts to global open knowledge movements. DCHN brings together practitioners working on digitisation, preservation, and access, creating a collaborative space for exchange and capacity building.

Since 2015, CC Türkiye has actively promoted open access and open culture in Türkiye through a range of interconnected activities, including raising awareness, translating key policy documents, supporting the use of open licensing, and facilitating cross-sector dialogue through its convening role. Among these efforts, the establishment of the Open Culture Network (Açık Kültür Ağı) at http://acikkultur.org represents a collective attempt to address barriers that limit equitable access to cultural heritage and knowledge.

Emerging from a multi-stakeholder workshop held in March 2023, the event brought together organisations including Digital Knowledge Association (Dijital Bilgi Derneği), DCHN, Turkish Librarians Association (Türk Kütüphaneciler Derneği, TKD), ÜNAK, and Data Literacy Association (Veri Okuryazarlığı Derneği, VOYD). Its accompanying declaration articulates shared priorities that closely resonate with the Open Heritage Statement, such as public access to public domain cultural heritage and metadata, alignment with international standards, coordination among diverse stakeholders, and preparedness for crisis contexts, such as devastating 6 February earthquake where initiatives like post-earthquake cultural heritage documentation took place (Açık Kültür Ağı, n.d.). Framed as an ongoing, participatory process, the initiative demonstrates how community-led collaboration can translate normative principles of openness into sustained practice, supporting participation in cultural life, reuse, and the long-term stewardship of digital heritage.

Emerging good practices in Türkiye include collaborative projects led by CC Türkiye, DCHN, and Wikimedia Community User Group Türkiye (WMTR). These initiatives demonstrate how partnerships, volunteer engagement, and open platforms can increase visibility and reuse of cultural heritage materials, even in resource-constrained environments. While still limited in scale, they provide valuable lessons for broader institutional adoption.

Examples of collaborative civil society open heritage initiatives in Türkiye include the following:

Since 2021, a GLAM–Wiki collaboration between DCHN and WMTR has focused on building a publicly editable digital knowledge base on cultural heritage. This collaboration brings together GLAM expertise, open knowledge platforms, and guidance on open licensing to support the sustainable reuse of cultural heritage content. Within this framework, data entries for museums in Türkiye were produced through the "Wiki Meets Museums of Türkiye - Museums of Türkiye (Viki Türkiye Müzeleri ile Buluşuyor - Türkiye Müzeleri)" project, a GLAM collaboration led by the Museum Professionals Association (MÜZEDER), the British Institute at Ankara, and WMTR (GLAM Türkiye Müzeleri, 2024). As part of the project's implementation, the DCHN team and students from the Department of Information and Records Management at Ankara University conducted museum visits in Ankara and contributed directly to the project.

Between 2023 and 2024, the Sivil Düşün Community Incubation programme supported capacity-building activities involving DCHN, with contributions from CC Türkiye and WMTR. These activities included organisational development, communication support, the translation of key Creative Commons policy resources into Turkish, and participation in the CARARE network to strengthen international knowledge exchange (Dijital Kültürel Miras Ağı, 2024a).

The Post-earthquake Cultural Heritage Documentation Initiative (2023–2024) was supported by a Rapid Fund grant from the Wikimedia Foundation and implemented collaboratively by DCHN, WMTR, and CC Türkiye. The project focused on building an open

knowledge repository documenting cultural heritage impacted by the February 2023 earthquakes and was complemented by in-person and online edit-a-thons that mobilised volunteers, researchers, and civil society actors (Dijital Kültürel Miras Ağı, 2024b).

"Cultural Heritage Conservation with Local Stakeholders in Nevşehir, Türkiye" (2025–2026) is a Rapid Fund-supported project led by DCHN in collaboration with WMTR and CC Türkiye. The initiative focuses on documenting tangible and intangible cultural heritage through fieldwork, training activities, and content creation on Wikipedia and Wikimedia Commons, with a strong emphasis on local participation and capacity building (Dijital Kültürel Miras Ağı, 2025).

In line with UNESCO's understanding of cultural heritage, these projects and collaborations contribute to the safeguarding of tangible and intangible cultural heritage by supporting documentation, transmission, and community participation. They reinforce the role of local communities as key actors in sustaining cultural heritage and ensuring its continuity in digital environments.

In terms of the Open Heritage Statement, together, these initiatives reflect several of the challenges and principles articulated in the Statement. They respond to barriers related to limited access to digitised heritage and the uneven distribution of infrastructure and expertise [Preambles e, l, m, and n], while addressing legal and informational obstacles through the use of open platforms and clearer rights communication [Preambles f, g, and i; Articles 1, 8, and 10]. The emphasis on volunteer engagement, skills development, and open licensing literacy aligns with the Statement's recognition of capacity-building as a prerequisite for sustainable access to public domain heritage [Preamble n; Articles 12 and 13] (Open Heritage Statement, 2025a).

These collaborations also illustrate how open heritage practices can advance broader societal goals identified in the Statement, including participation in cultural life, freedom of expression, and community-based stewardship (Preambles b, o, r). The post-earthquake (Initiative No: 3) and Nevşehir initiatives (Initiative No: 4) , in particular, demonstrate how openness can support resilience, ethical engagement, and locally grounded knowledge production in contexts shaped by crisis or regional inequality [Preambles u, v; Articles 16 and 17], translating the Statement's normative framework into contextualised practice (Open Heritage Statement, 2025a).

Networks such as CC Türkiye and DCHN are well positioned to translate the statement into practice. By fostering peer learning, engaging stakeholders, and amplifying community voices, these networks working closely with GLAM institutions and other stakeholders in the country help bridge the gap between global advocacy and local implementation.

3. **Open Heritage Statement as a Guiding Framework**

The Open Heritage Statement articulates a shared vision for open access to public domain cultural heritage (Open Heritage Statement, 2025a). It affirms that digitised public domain works should remain in the public domain and calls for legal, technical, and policy measures

to support this principle. It was developed by the Open Heritage Coalition through a participatory, international process; the statement reflects both institutional and community perspectives (Creative Commons, 2025).

The statement is available in Turkish (Open Heritage Statement, 2025b) and consists of two parts. First is the preamble (a-w) providing context, articulating values and principles, and outlining the barriers to equitable access to heritage around the world. The second part consists of articles (1-17) that propose policy solutions to lower barriers and unlock the potential of open sharing of heritage. Each barrier identified in the Open Heritage Statement has the transformative potential of open heritage to ensure equitable access.

Beyond access, the Open Heritage Statement addresses the full ecosystem that shapes how public domain heritage is digitised, described, governed, and reused. It engages with legal barriers such as copyright misapplication, contractual override, and fragmented international frameworks, while also recognising the impact of technical restrictions, including digital rights management, non-standardised metadata, and inaccessible formats. A recurring concern is the lack of clear and reliable rights information, which can undermine reuse even where materials are legally in the public domain. Initiatives such as Amsterdam's Rijksmuseum's Rijksstudio illustrate how clear identification of public domain works, combined with explicit reuse encouragement, can reframe access as active participation rather than passive viewing. By applying clear rights markings, such as CC0 or the Public Domain Mark, such approaches demonstrate how legal openness can be translated into meaningful public access and creative and educational reuse (Gorgels, 2013; Open Heritage Statement, 2025d).

The statement goes beyond identifying barriers by articulating normative principles for responsible and equitable openness. This dual structure of the statement, diagnosing obstacles while proposing concrete principles for action, provides a foundation for translating values into institutional practice.

Table 1, derived from the Open Heritage Coalition's StoryFrames, links each example to the corresponding barriers and provisions of the statement to facilitate readability and comparison. It maps institutional practices that demonstrate how open heritage can address these challenges in practice. Real-world examples illustrate how open heritage supports access, reuse, and shared cultural memory. Content provided in the StoryFrames has been summarised to fit the table for the purpose of this paper. Columns marked with an asterisk (*) connect each story to the relevant preamble(s) of the Open Heritage Statement, while columns marked with a double asterisk (**) link the stories to the specific Article(s) that articulate the applicable normative principles (Open Heritage Statement, 2025d).

The Open Heritage Statement can serve as a reference point for institutions seeking guidance in the absence of national policy. It offers a clear framework that can be adapted to local legal and institutional realities while aligning with international norms.

Table 1
StoryFrames Matrix: From Barriers to Open Heritage Practice.

Barrier or challenge to heritage access	Description	What is possible? Story showing how institutions overcome barriers	Why does it matter?	Preamble(s)*	Article(s)**
New copyright wrongly applied to digitized heritage	Copyright is wrongly claimed over faithful digital reproductions of public-domain heritage.	Poland digitises and releases public-domain works without asserting new rights claims (StoryFrame 1).	Incorrect copyright claims undermine reuse, creativity, and legal certainty.	f, g, q	1, 2, 3
Lack of clear marking for public domain heritage	Public-domain works are not clearly identified, causing uncertainty.	The Rijksmuseum clearly labels public domain works via Rijksstudio (StoryFrame 2).	Without clear marking, open heritage appears closed.	d, f, g	3, 4
Onerous attribution requirements by heritage institutions	Attribution is not imposed as a legal condition on public-domain works.	The McCord Stewart Museum encourages attribution as a social norm (StoryFrame 3).	Excessive requirements weaken public-domain freedoms.	g	3, 5
Overreach of moral rights restricting heritage access	Moral rights are misused to block adaptation of public-domain works.	Statens Museum for Kunst -SMK (National Gallery of Denmark) shares 3D models openly while respecting artistic integrity (StoryFrame 4).	Overreach suppresses expression and cultural growth.	f, g	6
Heritage protection laws that extend copyright protection	Special laws create pseudo-copyright over public-domain works.	Museo Egizio enables unrestricted reuse of public-domain reproduction (StoryFrame 5).	Extended protection limits cultural renewal.	f, h	7
No easy way to challenge incorrect copyright claims	Users cannot contest inaccurate rights statements.	Europeana audits and corrects rights metadata (StoryFrame 6).	Without remedies, heritage remains locked by uncertainty.	f, g, p	8

Contracts undermining heritage access	Terms of use impose new limits on public-domain works.	MKG Hamburg releases CC0 images without contractual barriers (StoryFrame 7).	Contracts replicate expired copyright restrictions.	f, i	9
Technological barriers to heritage	Digital locks and low-quality access restrict reuse.	Brazil's Museum of the Republic shares CC0 works without technical barriers (StoryFrame 8).	Technical restrictions shrink the digital commons.	d, f, j	10
Heritage inaccessible to people with disabilities	Digital heritage platforms exclude users with disabilities.	Sarjeant Gallery embeds accessibility by design (StoryFrame 9).	Without accessibility, heritage is not truly public.	k	11
Lack of skills creates gaps in digital access to heritage	Practitioners lack knowledge about how to manage open heritage.	CC Open Culture Certificate builds professional capacity (StoryFrame 10).	Skills gaps reinforce inequality and exclusion.	e, n	12, 13
High cost of access to public domain heritage	Fees and licences charge the public twice.	Paris Musées releases images freely without paywalls (StoryFrame 11).	Paywalls limit participation and creativity.	m	14
Fragile infrastructure for open heritage	Digital heritage relies on unstable systems.	Qatar Digital Library uses IIIF and open standards (StoryFrame 12).	Fragile systems risk loss and exclusion.	l, m, n	15
Tension between copyright and Indigenous data governance frameworks	Copyright ignores Indigenous consent and protocols.	The Indianapolis Museum applies TK Labels with Local Contexts (StoryFrame 13).	Ethical stewardship requires community authority.	t, u, v	16, 17

The statement creates opportunities to strengthen advocacy, encourage policy dialogue, and support institutional confidence in adopting open access practices.

It emphasises the necessity of coordinated action across policy reform, sustainable digital infrastructure, and capacity building. Training, shared tools, and collaborative platforms can help institutions overcome barriers and move toward open-by-default approaches. Ultimately, the statement envisions a collaborative ecosystem where GLAM institutions, policymakers, civil society, and communities work together to ensure equitable access to cultural heritage. This ecosystem approach is particularly relevant in contexts like Türkiye, where collective action can compensate for limited institutional resources.

4. Conclusion and the Way Forward

This paper has examined equitable access to public domain cultural heritage through the lens of global policy frameworks, advocacy initiatives, and the national context of Türkiye. Across these levels, a persistent gap emerges between the normative recognition of cultural participation as a right and the practical realities of access, reuse, and engagement. Legal uncertainty, fragmented institutional policies, limited infrastructure, and uneven capacity continue to constrain the public domain in practice, even where formal copyright protection has expired and works are in the public domain.

This study offers an exploratory perspective on open heritage practices in Türkiye through a set of illustrative institutional examples. While these cases reveal important opportunities and challenges related to access, reuse, and openness, further research involving a broader range of GLAM institutions would be needed to assess the extent to which these observations reflect wider sectoral trends.

The analysis demonstrates that open access is not merely a technical choice but a structural condition for equitable cultural participation. When public domain heritage is made openly available, accompanied by clear rights information, interoperable metadata, and inclusive design, it enables communities to engage actively with cultural memory, supports education and research, and fosters new forms of creativity. The Open Heritage Statement offers a timely and coherent framework for addressing these challenges by articulating shared principles and concrete pathways for action, bridging global advocacy with local implementation.

At the policy level, the findings point to the need for clearer national guidance on open access to public domain cultural heritage. In the absence of a dedicated national open heritage policy, the statement can serve as an interim reference framework for policymakers, ministries, and public institutions seeking alignment with international norms, while also contributing to ongoing discussions toward the development of a future standard-setting instrument, such as a UNESCO recommendation on open access to public domain cultural heritage. A future policy agenda could include:

- explicit recognition that faithful digital reproductions of public domain works should remain in the public domain,
- support for publishing non-sensitive heritage metadata openly and in machine-readable formats, and
- encouragement for public institutions to adopt standardised rights statements and open tools that are compatible with international infrastructure, such as Europeana.

Such measures would not require abandoning legitimate concerns around site protection, security, or ethical stewardship. Rather, they would enable proportionate, risk-aware openness, distinguishing between sensitive data and descriptive or contextual information that can safely be shared to enhance visibility, research collaboration, and public engagement.

This paper outlines several practical steps that institutions can implement, even in environments with limited resources. These include:

- adopting clear and consistent rights marking for public domain materials,
- avoiding contractual or technical restrictions that effectively replicate expired copyright, and
- investing in basic interoperability and accessibility standards.

Capacity building through training, peer learning, and shared tools emerges as a critical enabler, particularly for smaller institutions and regional collections.

The examples from Türkiye suggest that progress is already possible through collaboration, volunteer engagement, and open platforms. Networks such as CC Türkiye, the DCHN and WMTR play an essential intermediary role in translating global principles into locally meaningful practices and sustaining community momentum around openness, working in collaboration with major stakeholders, including the public bodies, GLAM institutions and other civil society organisations across the cultural heritage sector.

Looking forward, advancing equitable access to public domain cultural heritage in the country requires coordinated action across policy, institutions, and civil society. The Open Heritage Statement provides a shared language and set of principles that can help align these actors around common goals while remaining adaptable to local legal, cultural, and institutional contexts. Future research could deepen this work by examining user experiences, institutional decision-making processes, and the long-term cultural and social impacts of open access practices.

Finally, treating public domain cultural heritage as a common good, to be safeguarded, shared, and reused, demands more than isolated good practices. It calls for commitment, mutual trust, and a collective willingness to move from permission-based, risk-averse access toward openness by default. In this sense, the Open Heritage Statement is not only a policy aspiration but also an invitation to reimagine how cultural heritage connects past, present, and future through equitable access in the digital age.

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SOFT INTERFACES: SENSORY AND PARTICIPATORY APPROACHES TO INCLUSIVE IMMERSIVE ART

Emilija DOJČINOVIĆ

SOFT INTERFACES: SENSORY AND PARTICIPATORY APPROACHES TO INCLUSIVE IMMERSIVE ART

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Abstract

This paper examines how sensory design and participatory approaches can contribute to the creation of emotionally and physically accessible immersive art experiences. It approaches accessibility not only as a technical or functional concern, but also as a creative and ethical process that shapes how individuals engage with others through art and technology. Methodologically, the paper is positioned as a conceptual review of relevant literature supported by illustrative examples. It explores how digital and interactive media can support forms of inclusion that extend beyond visibility and representation, emphasizing shared experience, empathy, and presence. Drawing on theories of embodiment, affect, and inclusive design, the paper introduces the concept of soft interfaces: Hybrid artistic and technological environments that use sound, light, motion, tactile feedback, and other multisensory elements to facilitate embodied encounters with art. Rather than privileging sight as the primary mode of engagement, these interfaces can enable interaction through touch, rhythm, proximity, movement, and spatial awareness. This approach seeks to expand the sensory and emotional accessibility of artworks for audiences with diverse perceptual, sensory, and cognitive needs. Illustrative examples from museum installations, tactile environments, virtual reality, and responsive sound-based practices are used to examine possible applications of soft-interface principles and different forms of multisensory participation. The paper also considers challenges associated with sensory overload and discusses adjustable sensory intensity and adaptive design strategies as possible means of balancing immersive engagement with visitor comfort while supporting reciprocal dialogue between curators, designers, and audiences. The literature and examples considered in the paper indicate the potential of multisensory and participatory approaches to support more inclusive forms of audience engagement, while also highlighting the need for context-sensitive and carefully implemented design practices. The paper argues that inclusive design in immersive art should move beyond exclusively universal or standardized approaches toward more situated, participatory, and affective practices that respond to differences in perception, embodiment, and sensory experience. By reducing the perceptual boundary between human interaction and technological mediation, such work redefines accessibility as an expanded field of artistic experience - one that welcomes difference as a source of creativity rather than a barrier to overcome. Ultimately, this paper offers actionable initial strategies for cultural projects seeking to integrate sensory and participatory approaches while also addressing practical, institutional, logistical, and resource-related considerations associated with their implementation.

Keywords

Immersive Experiences, *Inclusive Design*, *Multisensory Experiences*, *Museology Innovation*, *Participatory Approaches*

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In the context of contemporary digital technologies, immersive art has developed through formats such as virtual reality (VR), augmented reality (AR), large-scale projection, and multisensory environments. A prominent example is *Van Gogh Alive*, developed by Grande Experiences, which combines large-scale projected imagery with a synchronized classical score and scent as part of its multisensory environment (Grande Experiences, n.d.). Such formats demonstrate how contemporary exhibitions can extend artistic experience beyond conventional modes of viewing. At the same time, some immersive environments remain strongly visually oriented and spectacle-driven, which may create barriers for audiences with diverse sensory, perceptual, or cognitive needs. Accessibility measures such as captions and audio description remain important, but they may not, by themselves, address barriers related to sensory intensity or modes of interaction within immersive environments. Multisensory approaches can therefore incorporate additional forms of engagement, including tactile and haptic interaction, spatial sound, and gesture- or movement-responsive systems, thereby allowing for a broader range of ways in which visitors can interact with an artwork (Delprino, 2022). Immersive environments may also involve high levels of visual, auditory, and other sensory stimulation. Research on neurodivergent users of extended reality has shown that excessive multisensory stimulation can contribute to sensory overload and that adjustable sensory settings may help reduce negative experiences (Lukava et al., 2022). The intensity and configuration of sensory stimuli should therefore be considered carefully in relation to visitor comfort and accessibility.

This article investigates sensory design as both a creative and an ethical approach that can contribute to more inclusive immersive art experiences. It also considers how audiences can participate in the development and refinement of such practices through consultation, co-design, testing, and feedback. The discussion centers on the concept of "soft interfaces": Hybrid artistic and technological environments that employ sound, light, motion, tactile or haptic feedback, and other multisensory elements to support embodied participation, presence, and shared experience rather than privileging sight as the primary mode of engagement.

Participatory and embodied approaches can also extend beyond technologically immersive environments. For example, Kuhlmann et al. (2025) examine an arts-based co-design process involving people with lived experience of Parkinson's disease, researchers, and performing artists, demonstrating how embodied practices, artistic media, and virtual space can contribute to collaborative processes around experiences that may be difficult to communicate verbally.

Two central research questions guide this conceptual exploration: How can multisensory design extend accessibility beyond representation toward meaningful participation? What practical applications and accessibility possibilities can soft interfaces offer for audiences with diverse sensory, perceptual, or cognitive needs? The implementation of such approaches also depends on institutional capacity and openness to iterative and participatory forms of development, particularly because broader changes in accessibility practices often require sustained organizational commitment.

Conceptual Framework and Approach

This paper is positioned as a conceptual review of relevant literature supported by illustrative examples. Within this framework, the term "soft interfaces" is used to refer to responsive artistic and technological environments that mediate interaction through gradual, multisensory, and body-centered forms of engagement rather than through rigid commands or primarily visual control systems. Soft interfaces may include tactile surfaces, haptic feedback, responsive sound, adaptive lighting, scent, temperature, spatial movement, or wearable technologies. Their "softness" does not refer only to physical texture, but also to the way interaction is structured: As flexible, adjustable, sensory, and responsive to different bodily and perceptual capacities. Soft interfaces are therefore understood in this paper as both an artistic strategy and an inclusive design approach that connects sensory experience, participatory development, ethical responsibility, and practical implementation.

The conceptual framework draws primarily on theories of embodied perception and affect. Merleau-Ponty's phenomenology provides a basis for understanding perception as fundamentally embodied, emphasizing the lived body, movement, and spatial engagement as integral to how individuals encounter and experience the world (Merleau-Ponty, 1945/2012). This perspective is particularly relevant to multisensory art because it allows artistic experience to be considered as something that occurs through bodily orientation, movement, touch, sound, and spatial relationships rather than through visual observation alone. Affect theory provides a complementary framework for considering how bodily intensities, sensations, movement, and atmosphere operate alongside, and at times prior to, conscious interpretation. Massumi's account of affect is particularly relevant in this context because it connects bodily experience, sensation, movement, and media within a broader theory of affective experience (Massumi, 2021). Together, these perspectives provide a theoretical basis for examining soft interfaces as environments in which perception, bodily experience, technology, and participation interact.

The analysis draws on relevant scholarly literature and illustrative examples from multisensory museum practices, immersive media, virtual environments, and interactive art. It also considers speculative applications of soft-interface principles in cultural and educational contexts. These speculative applications are presented as conceptual possibilities rather than as established or empirically validated practices.

Participatory and inclusive methodologies are particularly relevant to this framework because they demonstrate the value of involving people directly affected by questions of accessibility in research and development processes. Wickenden (2024), for example, describes participatory disability-inclusive research in which adults with disabilities worked as peer researchers and children with disabilities and their parents participated in workshops concerning inclusive education. Her findings demonstrate that people with disabilities can participate not only as research participants but also as active research collaborators. Although developed in the context of inclusive education rather than immersive art, this methodological principle is relevant to the participatory development of cultural experiences because it emphasizes the importance of incorporating lived experience into processes of research, testing, and design.

Within immersive art, participatory and situated approaches can complement broader accessibility and inclusive-design principles by responding to differences in sensory experience, bodily interaction, and context. Rather than treating technological systems as fixed solutions, this framework considers how they can mediate different forms of multisensory and participatory interaction. The literature and illustrative examples considered in this conceptual review also indicate areas in which further empirical investigation would be valuable, particularly regarding the long-term accessibility and experiential effects of adaptive multisensory environments.

Within this context, soft interfaces function as a central concept through which the paper connects inclusive design, embodied perception, multisensory experience, ethical responsibility, and practical implementation.

1. **Inclusive Design Practices, Methodology and Phenomenology**

Inclusive design represents a proactive, user-centered methodology that emphasizes consideration of user diversity from the early stages of design. This includes people with diverse sensory, cognitive, and physical characteristics, including people with disabilities and neurodivergent people. Rather than treating accessibility solely as a later technical adjustment, inclusive design takes into account the variability of human perception, cognition, movement, and interaction throughout the design process (Bencetić & Njegovanović, 2024). In this paper, variability refers to the range of ways in which individuals experience and interact with their environments, including differences in sensory sensitivities, motor abilities, cognitive processing, and responses to space. Applied to immersive art, this suggests that established accessibility measures such as captions, ramps, and audio description remain essential, while accessibility should also be considered as part of the sensory, aesthetic, and experiential structure of the artwork itself.

In immersive art contexts, this approach may involve tactile and multisensory elements, gesture- or movement-responsive systems, sound-based interaction, and other forms of interaction that allow visitors to engage with an artwork through more than one sensory channel (Delprino, 2022). Tactile or relief models of artworks, for example, can provide blind and visually impaired visitors with additional ways of exploring form through touch. Research involving touch-sensitive relief representations combined with audio information has demonstrated how multimodal systems can support more autonomous exploration of visual artworks by blind and visually impaired participants (Cavazos Quero et al., 2021). In this sense, inclusive design can function not only as a means of improving access, but also as an approach that expands the ways in which an artwork can be experienced.

1.1. **Inclusive vs. Universal vs. Design for All vs. Accessibility**

Although inclusive design, universal design, Design for All, and accessibility share a concern with enabling participation and reducing barriers, they are not identical concepts, and their boundaries are not always clearly defined. Their meanings, historical development, and areas of emphasis partially overlap, and the terminology is used differently across disciplines and contexts (Persson et al., 2015).

Accessibility broadly concerns the identification and removal of barriers that may prevent people from accessing, using, or participating in environments, services, technologies, and cultural experiences. In digital contexts, standardized frameworks such as the Web Content Accessibility Guidelines (WCAG) provide criteria for improving the accessibility of web content (World Wide Web Consortium, 2024). In physical and cultural environments, accessibility may also involve measures such as step-free access, elevators, captions, audio description, accessible information, and other adaptations responding to different sensory, physical, or cognitive needs. Such measures are essential, although accessibility can function reactively when it is considered only after the principal design decisions have already been made rather than being integrated from the beginning of the design process.

Universal design aims to create environments and products that can be used by as many people as possible without the need for subsequent adaptation or specialized design. The Principles of Universal Design identify seven broad considerations: Equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and appropriate size and space for approach and use (Center for Universal Design, 1997). These principles provide a broad framework for considering human diversity within the design process. At the same time, no single design approach can necessarily anticipate every combination of individual, contextual, sensory, or cognitive needs, particularly in environments characterized by complex forms of interaction.

Design for All similarly emphasizes human diversity, social inclusion, and equality. The EIDD Stockholm Declaration defines Design for All as design for human diversity, social inclusion, and equality and emphasizes the involvement of end users throughout the design process (European Institute for Design and Disability, 2004). In this respect, Design for All

shares important principles with both universal and inclusive design, particularly the intention to incorporate human diversity into design decisions rather than treating accessibility as a separate or subsequent consideration.

For the purposes of this paper, inclusive design provides a particularly useful framework because its emphasis on user diversity, participation, and responsiveness to different forms of exclusion aligns closely with the proposed concept of soft interfaces (Bencetić & Njegovanović, 2024). This choice does not imply that inclusive design supersedes universal design, Design for All, or established accessibility practices. Rather, these approaches can be understood as complementary frameworks with overlapping aims and different areas of emphasis. Within the context of soft interfaces, the inclusive-design perspective is especially relevant for considering how responsive artistic and technological systems can accommodate varied sensory, cognitive, and bodily modes of participation rather than relying on a single assumed mode of interaction.

1.2. **Hard and Soft Interfaces**

An interface can be understood as a mediating boundary between a user and a technological system, shaping how information, actions, and responses are exchanged between them. In immersive media, interfaces may involve hardware, software, sensors, screens, sound systems, movement tracking, and other forms of input and output that translate digital processes into human experience. Woletz (2018) emphasizes the importance of bodily and kinaesthetic participation in immersive media, where users do not merely observe digital environments but navigate, influence, and interact with them through movement and bodily action.

For the purposes of this paper, the term "hard interfaces" refers to interaction systems structured around relatively fixed, standardized, or narrowly specified forms of input and control. Such systems may rely on precise motor input, fixed timing, visually dominant controls, or limited interaction options. These requirements can create barriers when interaction depends heavily on speed, precision, sustained visual attention, or a single mode of input, particularly for users with diverse sensory, cognitive, physical, and perceptual characteristics.

By contrast, "soft interfaces," as defined within this paper, refer to systems that support more gradual, adjustable, and embodied forms of interaction. Rather than relying primarily on narrowly specified or fixed forms of control, they may respond to movement, gesture, voice, proximity, touch, or other forms of multisensory input. Delprino (2022) discusses gesture- and movement-responsive systems, voice interfaces, touch-based and touchless interaction, and other multisensory approaches that expand the range of possible interaction modalities.

Illustrative possibilities within the framework proposed here may include responsive lighting that changes with movement, sound environments activated by bodily presence, or tactile feedback linked to user interaction. These examples are presented as conceptual possibilities rather than as established design standards. By relying on bodily movement, multisensory feedback, and multiple modes of interaction, soft-interface approaches can reduce dependence on a single sensory channel, fixed timing, or highly specific forms of technical input, potentially accommodating a wider range of interaction preferences and bodily experiences.

1.3. **Embodiment, Phenomenology, and Affect**

The theoretical foundation of soft interfaces can be connected to phenomenology, embodied perception, and affect theory. Merleau-Ponty's phenomenology provides a basis for understanding perception as fundamentally embodied, with the lived body, movement, and spatial orientation playing an integral role in how individuals experience the world (Merleau-Ponty, 1945/2012). Applied to immersive and museum experiences, this perspective shifts attention from detached visual observation toward the bodily and spatial dimensions of perception. Scacco (2024) similarly approaches immersive art through a phenomenological framework, emphasizing corporeality, motility, spatiality, and the active role of the spectator in the production of meaning. From this perspective, the experience of immersive art can be considered through bodily movement, spatial orientation, touch, sound, proximity, and other sensory relations. This is particularly relevant in museum contexts in which engagement is primarily structured around visual observation and limited physical interaction.

Affect theory provides a complementary framework for considering bodily intensity, sensation, and movement as dimensions of experience that operate alongside, and at times prior to, conscious interpretation. Massumi's account of affect is particularly relevant in this context because it connects bodily sensation, movement, intensity, and media within a broader understanding of affective experience (Massumi, 2021). Deleuze and Guattari's concepts of flows and assemblages further support a relational understanding of experience in which bodies, technologies, artworks, and spatial environments are not treated as isolated elements but as dynamically interconnected components (Deleuze & Guattari, 1980/1987). Berard (2017) applies Deleuzian concepts of desire and assemblage specifically to encounters with art in museum spaces, offering a useful framework for considering how meaning emerges through relations among visitors, artworks, and their environments. Within this perspective, soft interfaces can be understood not simply as channels for transmitting information, but as relational environments in which bodies, technologies, artworks, and spaces interact.

Together, these theoretical approaches support a shift from passive spectatorship toward embodied and multisensory forms of participation. Rather than relying on a single perceptual pathway, responsive and multisensory environments can provide multiple modes through which visitors encounter and interact with artworks. Delprino (2022) demonstrates the relevance of multisensory and interactive approaches to inclusive design, including tactile, movement-based, sound-based, and other multimodal forms of interaction. Within the framework proposed here, accessibility is treated as part of the conception and structure of the artistic experience rather than solely as a subsequent accommodation. In this sense, the relationship between inclusion and artistic form is understood as integral to the design of the experience itself.

This conceptual understanding of soft interfaces provides the basis for the following sections. Materiality, tactility, and ambiance are discussed as sensory dimensions of soft interfaces; illustrative examples are used to examine how related principles appear in existing artistic and cultural practices; ethical considerations address the conditions of responsible implementation; and technical challenges clarify the practical constraints associated with introducing such systems within cultural institutions.

2. Concepts of Materiality, Tactility, and Ambiance

Within this paper, materiality refers to the role of tangible materials and physical qualities within immersive and multisensory environments. Textures, surfaces, and material properties can provide additional modes of engagement alongside visual and auditory elements, allowing the physical characteristics of an installation to contribute directly to the visitor's experience. A documented example is Cooper Hewitt, Smithsonian Design Museum's 2018 exhibition *The Senses: Design Beyond Vision*, which presented more than 40 objects and installations designed to be touched, heard, or smelled. Among them, *Tactile Orchestra*, created by Studio Roos Meerman and KunstLAB Arnhem, consisted of a wall covered in synthetic fur that activated recorded string-instrument sounds when touched (Cooper Hewitt, Smithsonian Design Museum, 2018). Such examples demonstrate how material properties can operate not merely as visual components of an installation but as active elements of multisensory interaction.

Tactility refers here to direct or technologically mediated forms of touch and haptic engagement with an artwork or exhibition environment. These forms of interaction may involve physical manipulation, textured surfaces, tactile representations, vibration, or other forms of haptic feedback. Tate Sensorium, presented at Tate Britain, provides a well-documented example of technologically mediated tactile experience. The project incorporated vision, sound, touch, smell, and taste and used mid-air haptic technology in combination with sound to extend the experience of visual artworks (Vi et al., 2017). Tactile engagement may also have implications for how visitors attend to and remember museum objects. Experimental museum research has found that physical object handling can support recognition and recall when compared with more exclusively visual modes of presentation (Sweetman et al., 2020). These findings do not suggest that increasing the number of sensory channels automatically improves memory; rather, they indicate that appropriately designed physical and multisensory engagement can contribute to particular dimensions of visitor experience.

Ambiance refers in this paper to the combined sensory and spatial conditions through which an exhibition environment is experienced. Lighting, sound, scent, temperature, material surfaces, and spatial organization may operate together to shape the atmosphere of an encounter, although the desired effect does not necessarily need to be calming or uniform across visitors. An illustrative institutional example is *Sensorium*, developed by the French design duo Les M and presented at Mudam Luxembourg in 2012. The project was conceived as a sensorial environment in which materials were selected specifically for surfaces and textures that invited touch, while an accompanying series of events and workshops explored each of the five senses (Mudam Luxembourg, n.d.). Rather than treating sensory elements as supplementary decoration, such an approach demonstrates how the sensory conditions of an exhibition can become part of its conceptual and experiential structure.

Within the framework of soft interfaces proposed here, materiality, tactility, and ambiance can therefore be understood as interconnected dimensions of multisensory experience. Physical materials provide tangible points of interaction, tactile and haptic systems introduce

additional modes of bodily engagement, and ambiance situates these interactions within broader sensory and spatial conditions. Their relevance to inclusive immersive art lies not in the assumption that greater sensory intensity is inherently more accessible, but in the possibility of providing varied modes of engagement while considering differences in sensory perception, comfort, and interaction preferences.

3. **Immersive and Participatory Approaches**

The illustrative examples considered in this section examine how principles associated with soft interfaces may support more participatory and accessible forms of immersive engagement. Contemporary immersive practices can situate visitors within spatial, digital, and multisensory environments through large-scale projection, sound, movement, spatial design, virtual reality (VR), augmented reality (AR), and other interactive technologies. In such environments, participation may extend beyond observation to include bodily movement, gesture, navigation, and interaction with responsive visual, auditory, or spatial elements.

A relevant example is *teamLab Borderless*, an immersive digital-art environment in which artworks respond to visitor movement and interact across shared spatial environments. The installation combines large-scale digital imagery, sound, movement-responsive elements, and other sensory components, illustrating how immersive environments can incorporate forms of bodily and participatory interaction (teamLab, n.d.). At the same time, the official visitor information for teamLab environments acknowledges sensory conditions such as flashing or intense light, loud sound, darkness, and other potentially demanding environmental effects. Such documentation illustrates why sensory intensity is an important consideration in accessibility planning, without implying that sensory intensity is inherently exclusionary.

Some immersive environments rely heavily on intense or rapidly changing sensory information, and these conditions may be experienced differently by visitors with different sensory profiles and access needs. Research involving neurodivergent users of extended reality has shown that excessive multisensory stimulation can contribute to sensory overload and that the ability to customize sensory settings may help reduce negative experiences (Lukava et al., 2022). These findings suggest that participation alone should not be treated as equivalent to accessibility: An environment may be highly interactive while still presenting barriers when sensory intensity, interaction requirements, or pacing cannot be adjusted to different users.

The purpose of this analysis is therefore not to position visually or sensorially intensive immersive formats as inherently problematic, but to consider how they may incorporate more adaptable modes of engagement. Within the soft-interface framework proposed here, this may include adjustable sensory intensity, multiple modes of interaction, flexible pacing, and opportunities for visitors to choose different levels or forms of participation. Such approaches may provide additional pathways for engagement and greater flexibility in how visitors encounter immersive environments.

3.1. **Passive, Active, and Hybrid Participation**

For analytical purposes, participation in immersive art can be considered along a continuum ranging from primarily observational to actively interactive forms, including combinations of both. In primarily observational immersive experiences, visitors may be surrounded by images, sound, spatial design, and other sensory elements while having limited influence over how the environment responds. Such experiences can still involve bodily and perceptual engagement, even when the visitor does not actively modify the artwork. Research on immersive art exhibitions has shown that sensory intensity can influence visitor attention, experience, and satisfaction, although these effects depend on the particular structure and conditions of the experience (Luo et al., 2025). Primarily observational and actively interactive formats therefore differ less in whether the visitor is engaged at all than in the degree of agency the visitor has within the environment.

Active participation increases the visitor's capacity to influence or modify aspects of the experience. Participants may move, touch, gesture, speak, approach an object, influence a soundscape, or activate visual and spatial responses through their presence. D'Ascenzi and de Spirito (2025) describe embodied forms of communication in which participants move from primarily receiving content toward more active and physically engaged modes of interaction. Within immersive art, illustrative possibilities may include gestures that produce visual changes, bodily movement that modifies sound, or proximity that activates a responsive element. In such cases, participation becomes connected to bodily action and agency rather than remaining primarily observational.

Immersive environments may also combine observational and interactive modes. Within the soft-interface framework proposed here, one possible structure is to allow visitors to begin through observation and then choose whether, when, and how to engage with interactive elements. Such an approach does not assume a single required mode or sequence of participation. Instead, it allows different levels of involvement and may accommodate visitors with varying degrees of familiarity, confidence, sensory preferences, and interaction needs. Optional and gradual participation may also reduce pressure to follow one prescribed form of interaction and provide visitors with greater autonomy over the intensity and form of their engagement.

Hybrid participation can further allow different forms of engagement to coexist within the same environment. Some visitors may remain primarily observational while others engage through movement, sound, touch, or other interactive elements. In group settings, participants may therefore occupy different roles without being required to interact in the same way or at the same level of intensity. From this perspective, soft interfaces can retain the observational and atmospheric dimensions of immersive environments while introducing optional interactive layers that increase flexibility and provide multiple modes of participation.

3.2. **Co-design and Participatory Development**

Participation can extend beyond the final moment of interaction within an exhibition and contribute to the development process itself. In inclusive immersive art, visitors, artists, curators, designers, educators, and people with diverse sensory, cognitive, or physical characteristics can participate in workshops, testing sessions, and feedback processes before an installation is finalized. Co-design approaches shift the development process from designing only for users toward designing with their participation, allowing participants to contribute to how experiences are conceptualized, tested, and refined (Sanders & Stappers, 2008). Such processes can help ground design decisions in participants' reported experiences rather than relying solely on assumptions about audience needs.

Direct consultation can be particularly valuable for identifying sensory, spatial, interaction-related, and accessibility needs. Participatory and disability-inclusive methodologies demonstrate the importance of involving people directly affected by accessibility-related questions as active contributors to research and development processes. Wickenden (2024), for example, describes research in which adults with disabilities participated as peer researchers and children with disabilities and their parents contributed through participatory workshops. Although this work was conducted in the context of inclusive education rather than immersive art, its methodological principle is relevant here because it demonstrates how lived experience can inform the development of practices intended for diverse participants. In cultural and immersive contexts, feedback may concern factors such as sensory intensity, lighting transitions, tactile qualities, navigation clarity, spatial orientation, and comfort.

Participatory development can also involve low-fidelity and readily modifiable prototypes that allow ideas to be explored before they are implemented at full scale. Physical mockups, material samples, sound sketches, and basic interactive prototypes can provide concrete objects or systems through which participants communicate preferences, difficulties, and responses. Sanders and Stappers (2014) emphasize the role of making, toolkits, and prototypes in co-design processes, where prototypes function not only as representations of proposed solutions but also as tools for collaborative exploration. Feedback gathered through such testing can inform subsequent design decisions and support an iterative process in which an installation is adjusted rather than treated as a fixed solution from the outset. Within multisensory design specifically, Delprino (2022) further emphasizes the importance of considering different modes of sensory and interactive engagement during the early stages of design.

The development of soft interfaces may also benefit from interdisciplinary collaboration because artistic, technical, accessibility-related, educational, and organizational considerations often intersect within cultural projects. Interdisciplinary approaches can bring together different forms of expertise and support the coordination of complex project requirements (Dojčinović, 2025). Depending on the project, an interdisciplinary team may include artists and designers responsible for the conceptual and sensory direction, technical specialists or engineers who develop responsive systems, accessibility specialists who advise on access and

user needs, educators who support audience mediation, and project managers who coordinate timelines, resources, communication, and evaluation. These roles are illustrative rather than prescriptive and may vary according to the scale and aims of a particular project.

Within participatory development, participants themselves may function as contributors or co-designers depending on the extent of their involvement. Their responses can inform the developing experience and influence subsequent iterations rather than being collected only after the work has been completed. In this sense, co-design shifts the process from designing solely for audiences toward developing experiences with audience participation as part of the design process.

3.3. **VR/AR for Immersion and Inclusion within the Soft-Interface Framework**

Virtual reality (VR) and augmented reality (AR) offer important possibilities for immersive artistic practice while also raising specific questions concerning accessibility and interaction design. VR situates users within digitally constructed environments, whereas AR overlays digital information or interactive content onto physical surroundings. Both formats can support embodied and interactive forms of exploration by allowing participants to navigate, gesture, move through, and respond to digitally mediated environments (D'Ascenzi & de Spirito, 2025). Their relevance to inclusive immersive art therefore depends not only on the technologies themselves, but also on how interaction is structured and how different sensory, physical, cognitive, and perceptual requirements are considered during the design process.

VR in particular can present accessibility and comfort-related challenges. Virtual reality sickness may involve symptoms such as nausea, disorientation, and visual discomfort, with causes relating to technological, content-related, and individual factors (Chang et al., 2020). Head-mounted displays and conventional controller-based interaction can also introduce physical and interaction-related barriers when systems require sustained grip, precise hand movements, particular physical postures, or a single mandatory mode of input. Reviews of accessibility in immersive virtual environments emphasize the importance of alternative forms of interaction, personalization, and multiple interaction modalities rather than assuming a uniform mode of bodily interaction (Dudley et al., 2023).

Within the framework proposed here, soft-interface principles may support more accessible VR and AR experiences through multimodality, customization, and alternative forms of input and output. The World Wide Web Consortium's (W3C) *XR Accessibility User Requirements* emphasizes multimodal interaction, alternative input methods, adaptable presentation, and accessible alternatives as important considerations in XR design (World Wide Web Consortium, 2021). Non-visual auditory or haptic cues, for example, can provide alternative forms of orientation and navigation for blind and low-vision users, while adjustable sensory settings may allow users to regulate aspects of sensory intensity according to their needs. Research involving neurodivergent XR users has further shown that excessive multisensory stimulation can contribute to sensory overload and that greater customization of sensory settings may help reduce negative experiences (Lukava et al., 2022).

Artistic VR applications also demonstrate how digital creation can become bodily and spatially situated. Google's *Tilt Brush*, for example, enabled users to create three-dimensional drawings through hand and controller movement while physically navigating around and through virtual forms (Doronichev, 2016). Such tools illustrate how artistic interaction in VR can extend beyond viewing a digital image toward embodied manipulation of virtual space. AR can similarly introduce digital layers and interactive information into physical cultural environments, allowing artworks, objects, or spaces to be supplemented with additional interpretive content. From an accessibility perspective, however, such digital layers should not depend on a single visual, auditory, or physical interaction pathway when alternative modalities can reasonably be provided.

Accessibility in XR also intersects with privacy and data governance. Immersive systems may collect eye-tracking, head, hand, and body-movement data, some of which can reveal sensitive information or contribute to biometric identification (Adhanom et al., 2023; Lin & Latoschik, 2022). Research on eye tracking and motion data in virtual environments has therefore emphasized privacy risks associated with the collection, processing, and potential identification of users through behavioral and biometric signals. Transparent communication about what information is collected, why it is collected, and how it is processed is particularly important when tracking functions are used. Where possible, users should also retain meaningful control over optional tracking features and interaction settings.

An exploratory artistic example is *Seeing Sense: Sensory Sensors*, an Immersive Arts-supported research and development project by Iona Zawinski. The project investigates combinations of VR, sensors, electronics, automata, natural materials, and touch-, gesture-, and environment-responsive technologies in relation to the artist's personal autistic experience (Immersive Arts, n.d.). Because the project is exploratory, it should not be understood as evidence of a validated accessibility intervention. Rather, it illustrates one way in which artists are experimenting with sensor-based and multisensory technologies to explore forms of embodied and neurodivergent experience.

Within this framework, VR and AR can be approached as adaptable environments that support multiple modes of exploration and participation rather than relying on a single prescribed form of interaction.

3.4. **Examples of Responsive and Multisensory Interface Design**

The examples below are presented as historical precedents and contemporary practices that illustrate principles relevant to the soft-interface framework, rather than as works originally defined through that terminology. Early multisensory systems such as Morton Heilig's *Sensorama* combined stereoscopic imagery, sound, airflow, vibration, and scent, demonstrating an early attempt to expand mediated experience beyond vision alone (Woletz, 2018).

Jeffrey Shaw's *The Legible City* provides a well-documented example of embodied interaction. In the installation, participants use a modified bicycle to navigate a projected virtual city, with pedaling and steering determining movement through the digital environment (Rößler, n.d.). Rafael Lozano-Hemmer's *Pulse Room* offers a different model of responsiveness: A sensor detects a participant's heartbeat, which is then translated into the flashing rhythm of an incandescent light bulb within the installation (Lozano-Hemmer, n.d.). Both works demonstrate how bodily action or physiological signals can become inputs that directly shape an artistic environment.

A related multisensory approach can also be found in heritage interpretation. JORVIK Viking Centre in York uses reconstructed environments together with ambient sound and deliberately designed olfactory cues to create a multisensory interpretation of Viking-age York. Its own accessibility documentation describes the experience as highly sensory and provides information about specific smells and other environmental conditions that some visitors may find intense (JORVIK Viking Centre, n.d.).

Taken together, these examples demonstrate different ways in which multisensory input, bodily action, and responsive sensing can structure the relationship between participants and technologically mediated environments. Within the framework proposed in this paper, they can therefore be understood as relevant precedents for thinking about soft interfaces without assuming that any of them constitutes a complete or inherently inclusive soft-interface model.

4. **Ethical Responsibilities, Representation, and Institutional Trust**

Inclusive practice in immersive art involves ethical responsibilities related to representation, participation, dignity, transparency, and institutional accountability. The *ICOM Code of Ethics for Museums* emphasizes principles including integrity, accessibility, participation, transparency, and accountability as important foundations for maintaining public trust (International Council of Museums, 2026). These responsibilities are particularly relevant when cultural institutions represent the experiences of disabled people or other communities whose perspectives are incorporated into exhibitions and participatory projects.

Within disability studies, the term "inspiration porn" has been used to critique representations that frame disabled people primarily through narratives of individual deficit, overcoming, or inspiration for nondisabled audiences (Grue, 2016). Inclusive cultural practice should therefore avoid reducing participants to symbolic examples and instead preserve their agency, dignity, and complexity. Where personal stories, images, or experiences are incorporated into artistic projects, appropriate consent and transparent communication should form part of the process. Ongoing consultation, audience feedback, evaluation, and knowledge-sharing can further support responsible institutional practice beyond the initial presentation of an artwork.

4.1. **Sensory Safety and Visitor Comfort**

Sensory intensity is not inherently incompatible with accessibility, but immersive environments should take into account that visitors may respond differently to light, sound, movement, crowding, and other forms of sensory stimulation. Research involving neurodivergent XR users has shown that excessive multisensory stimulation can contribute to sensory overload and that greater customization of sensory settings may help reduce negative experiences (Lukava et al., 2022). Sensory accessibility can therefore be supported through advance information about potentially intense environmental conditions, adjustable sensory settings where technically possible, clear opportunities to pause or leave an experience, and access to lower-stimulation spaces where feasible.

These practices should not be treated as universal solutions, but as examples of how institutions can provide visitors with greater information and choice. Within a soft-interface framework, ethical sensory design therefore depends less on reducing sensory intensity altogether than on anticipating variation in sensory experience and providing reasonable possibilities for adjustment, preparation, and withdrawal.

4.2. **Informed Participation, Risk Management, and Data Privacy**

Immersive and interactive artworks should provide participants with clear information about how an experience functions, including relevant sensory conditions, interaction requirements, and any foreseeable risks associated with the technology or physical environment. Risk assessment should remain proportionate to the specific project and should consider factors such as movement, equipment, lighting, sound, spatial conditions, and modes of interaction rather than treating artistic participation as a medical procedure. Immersive artworks should likewise not be presented as therapeutic or clinical interventions unless they have been explicitly developed and evaluated within an appropriate professional framework. Staff involved in presenting the work should be familiar with available interaction options, accessibility features, and ways in which visitors can pause or leave the experience.

Additional ethical responsibilities arise when interactive systems collect personal or sensor-generated data. Participants should receive transparent information about what data are collected, for what purpose, and how those data are handled. Where applicable, data processing should follow relevant data-protection requirements, including principles such as lawfulness, transparency, purpose limitation, and data minimisation under the General Data Protection Regulation (GDPR) (European Data Protection Board, n.d.). Within a soft-interface approach, this means avoiding unnecessary collection of personal or physiological information and ensuring that technological responsiveness does not depend on gathering more data than are required for the intended artistic function.

4.3. **Future Research and Implementation Priorities**

The development and implementation of complex cultural projects can benefit from interdisciplinary collaboration that brings together artistic, technical, accessibility-related, and organizational expertise (Dojčinović, 2025). Within the context of soft interfaces, however,

further research is needed to move from conceptual development toward empirical evaluation. Future studies should examine how multisensory and adaptive immersive environments are experienced by different users and across different cultural and institutional contexts, including their longer-term implications for accessibility, comfort, agency, and participation.

Further investigation is also needed into the practical feasibility of implementing adaptable systems in institutions with different technological and organizational resources. Where adaptive or AI-driven systems are incorporated into immersive environments, research should additionally address transparency, bias, user control, privacy, and data governance. These priorities reflect the conceptual nature of the present paper: The soft-interface framework proposed here is intended as a basis for further testing and refinement rather than as an empirically validated model of inclusive immersive practice.

Technical Challenges and Practical Constraints

The implementation of immersive and responsive technologies depends not only on artistic intention but also on institutional capacity. Research involving cultural institutions in Serbia has identified technical infrastructure and specialized staff training among the challenges associated with the adoption of immersive technologies (Manevska et al., 2026). Similar concerns regarding digital infrastructure, professional skills, and institutional strategy have been identified within the wider European museum sector (Network of European Museum Organisations, 2023). Different systems may require different combinations of spatial, electrical, network, hardware, and software infrastructure. The feasibility of a particular technological approach therefore depends on the conditions and technical capacities of the institution in which it is implemented.

Operational requirements also extend beyond the initial installation of a system. Research involving museum professionals working with virtual reality has identified staffing, training, maintenance, repair, hygiene, and technical reliability as practical considerations in the continued use of immersive technologies (Shehade & Stylianou-Lambert, 2020). Technology-based installations may therefore require forms of technical expertise or support that are not already available within an institution. These requirements can affect how reliably an installation can be operated, maintained, and supported over time.

These constraints do not preclude experimentation, but they underline the importance of aligning technological ambition with institutional capacity. Not every cultural environment requires a fully immersive technological system. A proportionate approach may begin with limited-scale prototypes or selected sensory and interactive elements before more complex systems are introduced. Targeted modifications may provide additional modes of engagement without requiring a complete technological transformation of an exhibition environment. Within the soft-interface framework proposed here, technological complexity should therefore be considered in relation to artistic purpose, accessibility goals, institutional infrastructure, staff capacity, and the practical requirements of continued operation.

5. **Conclusion**

This paper has approached accessibility in immersive art as an integral part of the artistic and participatory design process rather than as a subsequent technical adjustment. Through the proposed concept of soft interfaces, immersive environments are considered in terms of embodied, multisensory, adjustable, and participatory forms of interaction that do not assume visual observation or a single standardized mode of participation as the primary pathway to engagement. Drawing on theories of embodied perception and affect, inclusive design principles, relevant literature, and illustrative examples, the paper indicates that multisensory, adaptive, and participatory approaches may provide additional modes of engagement for visitors with diverse sensory and interaction needs.

At the same time, the analysis has emphasized that the implementation of such approaches depends on institutional context, technical infrastructure, staff capacity, sensory and ethical considerations, and the practical requirements of continued operation. Rather than proposing soft interfaces as a universal solution, the paper argues for situated, iterative, and participatory approaches that can be refined in response to audience experience, accessibility requirements, and the conditions of specific cultural environments. Informed participation, transparency, sensory accessibility, proportionate risk management, and responsible data practices therefore remain important alongside artistic and technological experimentation.

Within this framework, inclusion is understood not as a constraint on artistic practice but as a potential source of new sensory, spatial, and participatory possibilities. Participatory development can allow differences in perception and interaction to inform the design of the experience itself, while proportionate implementation can help align technological complexity with artistic purpose and institutional capacity. The concept of soft interfaces is therefore proposed as a conceptual framework for considering embodiment, multisensory design, participation, accessibility, ethics, and practical implementation together. Further empirical research is needed to test and refine this framework across different audiences, technologies, and cultural contexts.

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RETHINKING MUSEUM COMMUNICATION THROUGH AFFECTIVE AND SENSORY MUSEOLOGY

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Abstract

Contemporary museum practice increasingly faces the limitations of traditionally dominant, visually oriented models of communication with the public. Although museums have long been conceived as institutions primarily addressing sight, such approaches often fail to fully engage diverse audiences or acknowledge the embodied, emotional and multisensory dimensions of museum experience. This paper argues that rethinking museum communication through the frameworks of affective and sensory museology provides a productive response to these limitations. It primarily focuses on identifying the limitations of museological theories, particularly their failure to recognize the potential of multisensory exhibition practices, which could represent a necessary, indeed the only viable framework for inclusive museum communication for blind and visually impaired visitors. The paper discusses the shift from object-centered communication toward participatory and experience-based models that reshape traditional museum practices. Within this perspective, emotions are understood as integral to knowledge construction, memory formation and visitor engagement, while sensory museology challenges the visual hegemony of museums by emphasizing multisensory perception. By incorporating touch, sound, olfactory elements and movement, museums can foster more inclusive and meaningful forms of interpretation, transforming visitors from observers into participants in the production of meaning. Ultimately, the paper contributes to ongoing debates on the future of museum communication by highlighting the transformative potential of affective and sensory museology in shaping more inclusive, responsive, and experiential museum environments.

Keywords

Museum Communication, Affective Curatorship, Sensory Museology, Multisensory Experience, Inclusion

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Western systems of knowledge have long been shaped by the privileging of vision as the primary mode of perception and cognition. From classical antiquity onward, sight has been regarded as the most reliable sense through which the world can be known, a tendency often described as *ocularcentrism*.[1] As Rudolf Arnheim (1985) argued, visual perception plays a crucial role in human cognition by organizing sensory information into coherent mental structures. Yet this emphasis on vision has also contributed to the marginalization of other senses in processes of meaning-making. The dominance of visual perception has deeply influenced the ways in which art and cultural heritage are communicated within museum contexts. While moments of critique and resistance to visual supremacy emerged throughout history, particularly in modern and avant-garde artistic practices (Rukavina, 2010), the visual paradigm has remained largely intact within institutional frameworks. Museums, as spaces predominantly dedicated to visual artefacts, have inherited and reinforced this ocularcentric model. The transformation of museums into public institutions during the XVIII and XIX century further consolidated this shift. With the emergence of broader social strata as museum audiences, concerns primarily related to conservation and appropriate visitor behaviour gradually led to the restriction of tactile and multisensory interaction, positioning visitors as observers rather than embodied participants. (Kanari et al., 2022) As a result, museum communication increasingly relied on visual and textual strategies, reinforcing distance between objects and audiences and shaping visitors' behaviour. While visual engagement remains a powerful tool for interpretation, its dominance also produces communicative limitations, particularly for people who are blind and visually impaired. By privileging sight, museums implicitly assume that all visitors can access information presented visually, overlooking the diversity of sensory abilities and perceptual experiences. As a result, museum communication becomes accessible primarily to those who can engage with visually

[1] Ocularcentrism refers to the cultural and epistemological privileging of vision over the other senses as the primary mode of perception and knowledge production (Rukavina, 2010). Within museum studies, this concept describes the historical dominance of visual experience in exhibition design and interpretation, a paradigm increasingly challenged by sensory museology (Classen, 2017; Howes, 2014).

presented information, limiting both inclusivity and the diversity of possible visitor experiences. This paper adopts a qualitative theoretical approach based on critical literature analysis. Rather than presenting empirical research, it offers a conceptual synthesis of scholarship from museum studies, sensory studies, affect theory and disability studies. The selected sources were chosen because they represent key contributions to contemporary discussions on museum accessibility, embodied perception and visitor engagement. Through comparative analysis of these theoretical perspectives, the paper examines how affective and sensory museology may complement one another in developing more inclusive models of museum communication.

1. **Museum communication: From Sight to Senses**

Over the past decades, museums have undergone a significant transformation, marked by a gradual shift from object-centered institutions toward visitor-oriented spaces emphasizing education, participation and experience. This transformation has placed museum communication at the core of contemporary museological discourse, foregrounding the question of how meaning embedded in museum objects is transmitted, interpreted and negotiated with diverse publics. Once removed from their original contexts and reframed within the museum environment and other museum objects, they become part of new narrative and interpretative frameworks shaped through curatorial selection, exhibition design and often different forms of presentation. The exhibition thus emerges as a primary medium of museum communication, structuring the transmission of knowledge, values and interpretations from institutions to their audiences (Maroević, 1993). Despite these developments, dominant models of museum communication have largely remained rooted in visually oriented and information-based approaches. Communication is often conceived as a linear process in which curators and museum professionals transmit predefined meanings to visitors, who are positioned as recipients rather than participants in meaning production (Marojević, 2018). While such models have historically emphasized education and the dissemination of knowledge, they frequently overlook the embodied and emotional dimensions of museum experience. As a result, museum communication continues to privilege sight as the primary mode of engagement, reinforcing a visual hegemony that shapes exhibition practices. This reliance on visual communication raises critical questions of accessibility and inclusion. As Maroević (1993), building on Stransky's theory of museum communication, argued, it presupposes certain perceptual abilities and cognitive competencies, implicitly defining who can access, interpret, and engage with exhibited content. In practice, this translates into communication models that create barriers to participation when they fail to accommodate diverse sensory capacities, particularly excluding visitors with sensory disabilities.

The issue, therefore, is not merely the ability of visitors to perceive museum messages, but the capacity of museums to adapt their design and communicative frameworks to the sensory diversity of their publics.

Historically, direct and multisensory engagement with objects, particularly through touch, played a more prominent role in museum encounters (Kanari et al., 2022). However, concerns related to preservation gradually restricted such practices, consolidating a predominantly

visual mode of interaction. Although contemporary museums increasingly acknowledge the importance of participation and experience, many exhibition strategies continue to reproduce this inherited hierarchy of the senses, prioritizing visual information over other forms of perception. Within this context, museum communication must be reconsidered not only as a process of information transmission, but as a complex, embodied, and carefully designed practice. This reconceptualization is essential for inclusive museum practice, as accessibility involves more than the removal of architectural barriers. Physical access alone does not guarantee meaningful participation or equitable engagement, particularly for visitors with sensory impairments. In this sense, communicational barriers, those that hinder the transmission and reception of information, knowledge and experience, pose a far greater challenge. It is important to recognize that while the term accessibility is often used as a synonym for availability or approachability, it encompasses multiple dimensions, including physical, financial, intellectual and communicational aspects. According to the Dictionary of Museology (Mairesse, ed., 2023), access is primarily framed in terms of physical accessibility, with particular emphasis on architectural barriers. While the entry does acknowledge other forms of access, including communicational, intellectual, financial and other related dimensions of accessibility, these are addressed to a lesser extent, despite representing significant challenges in museum practice. This predominant focus on the architectural dimension can be understood as a logical outcome of long-standing theoretical and historical approaches to accessibility, which have traditionally prioritized spatial access. In both theoretical discourse and historical developments, accessibility has thus most often been addressed through the adaptation of physical space, preceding critical engagement with content, interpretation and modes of communication. Recognizing these nuances is crucial for ensuring conceptual precision in discussions of participation and inclusion within museum contexts.

2. **Inclusion and Accessibility in Museums: Historical and Conceptual Frameworks**

During the 1990s, the concept of social inclusion began to gain significance and gradually infiltrated various spheres of society, including cultural institutions. This process did not emerge in isolation but was directly linked to social changes following major historical upheavals, particularly after World War II. The large number of war veterans and their struggle for rights contributed to raising awareness of the need for inclusivity in society (Petrović, 2002), which gradually influenced the future tasks of museology. The term social inclusion, initially associated with the development of special education in the 1970s, appeared in the museological context twenty years later, primarily as a response to the social exclusivity of museums across Europe (Sandell, 2003). In the past, social inclusion issues were most often addressed by installing ramps, representing an important step toward overcoming architectural barriers (Mairesse, 2023). The practice of providing ramps for wheelchair users began to emerge during the 20th century, after World War II, when awareness of the needs and rights of people with disabilities significantly increased. Key moments occurred during the 1960s and 1970s with the rise of the disability rights movement, which led to questions regarding improving the lives of

people with disabilities and resulted in important legislation. One such event was the enactment of the U.S. Rehabilitation Act of 1973, which prohibited discrimination against people with disabilities in federally funded programs for the first time and included accessibility requirements, entailing the adaptation of physical spaces (Rehabilitation Act of 1973). Similar laws and regulations were introduced in other parts of the world from the 1970s onward, and this trend continued throughout the 1980s and 1990s (Rembis, 2010). However, as we previously mentioned and elaborated, inclusion encompasses much more than mere physical accessibility, it also involves overcoming communicational barriers for example, allowing all museum visitors to participate fully and experience museums holistically. Unrestricted access would strengthen the relationships between museums and marginalized groups, helping people to deconstruct the perception of museums as elitist institutions. Considering the continuous evolution of society, and therefore of museum audiences with their expectations and demands, the future presents numerous challenges for museum professionals in creating new content, constantly reinterpreting their collections and finding an appropriate museological language for engaging with the diverse publics. In the revised 2022, the International Council of Museums (ICOM) emphasizes accessibility, inclusion, and diversity (ICOM, 2022),[2] concepts that are closely linked to understandings of disability. However, the meanings of these terms have evolved over time in response to shifting social and political contexts (Milankov, Opačić, & Subašić, 2022). A significant shift occurred in 2002, when the World Health Organization articulated the Social Model of Disability alongside the previously dominant Medical Model. This reframed disability not as an individual deficit, but as a condition shaped by social and environmental barriers, although in practice elements of both models continue to coexist. This distinction highlights that disability is not solely determined by individual physical or psychological limitations, but is also produced through broader social structures. In the museum context, accessibility refers to the elimination of all barriers, with architectural ones being the most commonly recognized and addressed. Beyond architectural barriers, communicational, instrumental (a subcategory of communicational), methodological, programmatic and attitudinal barriers toward diversity are also recognized, as we previously mentioned, even though we have mostly been focused on phsyical and merely communicational ones. Discussing museum accessibility should go beyond installing ramps, given that museum can be considered inclusive only when visitors can independently decide to attend and are not restricted by the (in)accessibility of spaces and content. According to universal design principles, overcoming architectural barriers also entails interventions in the interior and not just exterior (Tiflological Museum, 2022).[3] The concept of universal design was first introduced in

[2] Long before ICOM, UNESCO in 1960 highlighted that all visitors should be provided with equal opportunities to participate, essentially returning the discussion to the question of communication, including the different modes and media through which museums could be equally open to all visitors (Mairesse, 2023). Later, in the 1990s, the UN framed participation in cultural activities not merely as an opportunity but as a fundamental human right that must be respected like any other (Mairesse, 2023).

[3] Universal design, or design for all, is defined by the Stockholm Declaration of 2004 as an approach that embraces human diversity, social inclusion, and equality. This approach aims to provide equal conditions and greater accessibility for all. Guided by the principles of universal design, museums should combine visual,

1970 by American architect Ronald Mace, one of the first architects to consider accessibility in design, as he himself was a wheelchair user. Therefore, the term is mostly associated with physical accessibility. However, universal design equally applies to adapting museum content and overcoming communicational barriers, a process requiring considerable time, effort, and financial resources, particularly in large museums. The Tiflological Museum in Zagreb is a notable example, as it not only implements accessible and inclusive communication practices but also actively contributes to raising awareness of the social position and experiences of blind and visually impaired people. This raises the question: What percentage of museum content can realistically be adapted, and how should this be approached?

3. **Historical Perspective: From Embodied Encounters to Visual Discipline**

A valuable historical perspective on the sensory transformation of museum experience, understood here as involving multiple modalities of perception, including sight, hearing, and touch, is provided by Constance Classen in The Museum of the Senses: Experiencing Art and Collections. Classen demonstrates that early encounters with collections were not governed by strict visual regimes, but were instead characterized by embodied, multisensory engagement. By engaging with XVII and XVIII century travel accounts as part of her research, Classen illustrates that visitors (at the time predominantly members of the upper classes) routinely handled objects, touched and smelled materials and activated multiple senses as part of the process of understanding and evaluating collections (Classen, 2017). According to Classen, this form of freedom gradually diminished as museums transitioned from elite, semi-private collections to public institutions open to broader audiences. This expansion of access to the working classes in the XVIII and XIX century played a significant role in redefining acceptable forms of museum behavior. As visitor numbers grew, concerns about damage, theft, and preservation increased, resulting in strict regulations on behavior in museum spaces. Touch, in particular, became increasingly restricted, not only as a protective measure but also as a means of disciplining visitors' bodies and reinforcing institutional authority. The author further emphasizes that the restriction of tactile engagement was deeply entangled with social hierarchies and class-based anxieties. (Classen, 2017) While tactile exploration had long been accepted within aristocratic and scholarly circles, when practiced by the lower classes, it was perceived as disruptive and inappropriate. As a result, museums progressively privileged vision as the primary and eventually dominant mode of engagement, constructing an ideal visitor who observes quietly, maintains physical distance from objects and conforms to emerging norms of aesthetic contemplation. This historical shift contributed to the establishment of a visual paradigm that continues to shape museum communication today. Within the context of contemporary museological theory, Classen's analysis is particularly significant. It reveals that the dominance of visual interpretative models in museums is neither nat-

tactile, and auditory elements in order to be fully accessible to all visitors. The Declaration was adopted on 9th of May 2004 at the Annual General Assembly of the European Institute for Design and Disability in Stockholm.

ural nor inevitable, but historically constructed. In light of evolving theoretical discourses in the XXI century, particularly those emphasizing inclusion, accessibility and participation, the exclusive reliance on visual models of communication appears increasingly unsustainable. As museums reconsider their social roles and responsibilities, revisiting multisensory approaches may be understood not as a radical departure from tradition, but as a critical re-engagement with earlier modes of experiencing art and collections. Rather than offering definitive conclusions, this discussion opens up new dialogues and raises new questions concerning the possibilities of creating a space which could become more than what meets the eye.

3.1. **Beyond Vision: Overcoming Communicational Barriers**

Having discussed the dominance of visual communication in museums and the challenges it poses for inclusion, it becomes crucial to explore alternative models that engage multiple senses. Such approaches not only broaden the ways in which visitors can experience museum objects but also help overcome communicational barriers that limit participation. One model that differs from the still predominant visual-informational approach is the incorporation of tactile, three-dimensional replicas of museum objects. This tactile approach engages not only the sense of sight but also the sense of touch. While such forms of communication were more common in the past, they declined as visitor numbers grew, due to the increased risk of damage to original objects, prompting museums to implement strict handling policies. Alongside traditional museums, which increasingly restricted physical interaction with objects, tiflological[4] and tactile museums[5] developed as alternative institutional models. Unlike conventional museums, these institutions were conceived with the explicit aim of foregrounding sensory perception as a primary mode of access to cultural heritage, particularly touch. Designed predominantly for blind and visually impaired visitors, tiflological and tactile museums challenged the dominance of vision by promoting direct physical engagement with objects. In this context, touch was not regarded as a secondary or supplementary sense, but as a central interpretative tool. These practices demonstrate that multisensory approaches in museums are not solely a contemporary innovation, but are rooted in earlier inclusive strategies that sought to overcome communicational barriers through sensory diversification. Moving away from these types of museums, the inclusion of tactile models appears more frequently in temporary exhibitions of traditional museums, as they typically involve fewer objects, giving curators more flexibility in experimenting with communication models. However, there are also a few examples of museums that have adapted permanent displays to allow tactile interaction with objects that permit it. That kind of a dual interpretation of objects can be considered an inclusive approach or a move toward alternative museum experiences. Returning to the discussion of the senses, it becomes clear that the tactile model is not the only means of facilitating participation among

[4] Typhlological Museum in Madrid (Museo Tiflológico de la ONCE), Typhlological Museum in Zagreb (Tiflološki muzej) etc.

[5] Tactual Museum of Athens (Μουσείο Αφής), The Louvre Museum's Gallery Tactile (La Galerie tactile du musée du Louvre) etc.

diverse demographic groups. Considering the varied abilities of visitors, it is important to provide as diverse a content offering as possible, which includes multiple models of communication. Besides tactile models, which convey the physical characteristics of objects, museums frequently employ auditory models that provide information about the displayed objects, the museum's history, or spatial navigation. Less commonly, olfactory interaction with objects is used, engaging the sense of smell. Incorporating olfactory experiences can enhance the perception of a specific atmosphere, environment, or even evoke personal memories. Again, olfactory, tactile and auditory approaches are particularly important as communication models for visitors with visual impairments, whose experience is limited due to the dominance of the visual model in museums.

Although museums are predominantly visual spaces, they are not limited to communicating exclusively through visual means, but retain the capacity to integrate additional communicative models within curatorial practice. The early XXI century has seen the growing development of the multisensory museum concept, which aims to engage and stimulate multiple visitor senses. Multisensory and interactive experiences have become key aspects of museum offerings, as they enable audience participation, which fundamentally shapes the creation of museum content (Milankov et al., 2022). As previously mentioned, non-visual communication models[6] can collaborate with traditional visual models, which are commonly more focused on educational functions rather than on emotional engagement and experiential aspects. By incorporating models that activate multiple senses, curators create more interactive and inclusive experiences, without compromising aesthetic engagement. The aesthetic aspects of exhibitions, such as spatial design, lighting, and the presentation of museum objects, remain essential for conveying the exhibition's message and values. By integrating aesthetic principles with multisensory approaches, contemporary museums can create a holistic experience, allowing visitors not only to visually perceive art but also to truly feel it. Both aspects are crucial for contemporary museums, but the restoration of sensory experiences is particularly significant, as it represents not merely an enhancement of visitor engagement, but a critical strategy for overcoming communicational barriers. These barriers, alongside architectural ones, constitute substantial obstacles preventing museums from becoming fully accessible to all visitor categories. Considering that the redefined museum definition promotes inclusion and accessibility, now is an opportune moment for museums to embody these principles in practice (Milankov et al., 2022).

Building upon the discussion of non-visual communicational models, a significant theoretical and practical contribution to the understanding of multisensory museum environments is provided by the volume The Multisensory Museum (2014), edited by Nina Levent and Alvaro Pascual-Leone. This publication is widely regarded as a foundational work in the field of multisensory museum practice, as it systematically addresses the role of sensory perception

[6] Non-visual communication models refer to approaches to communication that do not privilege visual perception as the primary mode of meaning-making, but instead incorporate auditory, tactile, olfactory, and embodied forms of engagement to facilitate interpretation and understanding.

beyond vision in shaping museum experience, interpretation, and accessibility. It's important to mention that it does not represent a single theoretical position or disciplinary perspective. Rather, the book brings together a wide range of contributors whose research interests span museum studies, neuroscience, psychology, education, architecture, disability studies, sensory studies, and curatorial practice. This diversity of approaches reflects the complexity of multisensory experience itself and positions the volume as an inherently interdisciplinary project. The contributors approach multisensory museum practices from different points of view, some grounded in empirical research, others in curatorial experimentation or theoretical reflection, demonstrating that sensory engagement in museums can not be reduced to a single methodology or interpretative framework. Instead, multisensory strategies emerge as a shared concern across disciplines that examine how people perceive, learn, remember, and emotionally engage with cultural content. By assembling perspectives from researchers and practitioners with varied professional and academic backgrounds, the book underscores the idea that contemporary museums operate at the intersection of multiple fields of knowledge. This interdisciplinary orientation is particularly significant in the context of XXI century museums, which are increasingly expected to fulfill a broad range of roles: From preserving and interpreting heritage, to fostering social inclusion, supporting education, encouraging participation, and providing meaningful experiences for diverse audiences.

In this sense, The Multisensory Museum reflects a broader shift within museology toward collaborative and cross-disciplinary modes of thinking. Addressing communicational barriers, developing inclusive practices, and creating multisensory environments require insights not only from traditional museum theories, but also from disciplines that explore cognition, embodiment, perception, and social interaction. The book therefore serves less as a prescriptive model and more as a platform for dialogue, illustrating how multisensory approaches can respond to the complex demands placed on museums today.

4. **Sensory Museology and Affective Studies: Theory Into Practice**

The concept of sensory museology draws inspiration from the work of David Howes, a prominent anthropologist specializing in the history of the senses. Howes's book The Sensory Studies Manifesto: Tracking the Sensorial Revolution in the Arts and Human Sciences (2014) introduces a new framework for understanding how human perception is culturally mediated. By foregrounding the role of the senses in social, artistic, and scientific contexts, Howes opens the way for museums to rethink their modes of engagement, moving beyond the exclusively visual and cognitive. Sensory Museology, therefore, emerges as a theoretical and practical approach that integrates multisensory experiences, emphasizing agency, interactivity, and inclusivity. This approach not only aligns with the sensorial turn in the humanities and social sciences but also offers a foundation for innovative museum practices that are accessible and engaging for diverse audiences. In his work, David Howes emphasizes in line with the researchers discussed thus far, that the so-called sensory revolu-

tion did not emerge spontaneously, but developed as a response to broader epistemological and cultural shifts that took place in the human sciences toward the end of the twentieth century. From the 1990s onward, scholars increasingly questioned the long-standing privileging of vision as the primary mode of knowledge production. This critical turn was driven by growing dissatisfaction with abstract, disembodied models of perception and by renewed interest in the body, affect, and everyday experience as sources of meaning. As a result, perception came to be understood as shaped by historical and cultural contexts rather than determined solely by biological mechanisms. Like Classen (2017), Howes argues that points out that the dominance of vision, particularly within museum contexts, is not universal nor timeless and that early museums of the XVII and XVIII centuries were not organized around visual contemplation alone, but functioned as multisensory environments in which touch, proximity, sound and even smell played an integral role. In his book, Howes argues that contemporary museums are increasingly moving away from this restrictive sensory model. Rather than positioning visitors as passive observers, modern museum practices seek to engage the full sensorium, encouraging embodied participation and affective involvement. Touch, sound, smell, and movement are gradually being reintroduced through carefully designed exhibitions, handling sessions, immersive environments, and interactive displays. This shift reflects a broader understanding that learning and meaning-making are multisensory processes and that emotional engagement can be as important as intellectual interpretation. A key aspect of this transformation is the growing role of digital and sensory technologies, which are often perceived as diminishing the aura and authenticity of the original object. Technology should not be viewed as a threat to traditionally oriented museums (Šola, 2011), nor as a force that undermines authenticity. Instead, technology functions as a powerful tool that enables associative connections between past and present. Through sound reconstruction, haptic interfaces, virtual environments, and sensory simulations, museums can evoke historical atmospheres and perceptual conditions that are otherwise inaccessible. When used critically and thoughtfully, technological mediation enhances rather than replaces material culture, allowing visitors to experience history in more immediate and meaningful ways. Howes notes that that war museums and historically immersive exhibitions have become particularly important testing grounds for these sensory approaches. (Howes, 2014) By activating sound, touch, spatial design, and material artefacts, such exhibitions engage both the personal memories of those with lived experience and the imaginative capacities of visitors encountering these histories for the first time. Sensory strategies in this context do not trivialize or aestheticize violence; instead, they foster deeper emotional resonance and ethical reflection. These practices challenge the assumption that multisensory displays are merely artificial or manipulative, foregrounding instead the active, interpretive role of the visitor in constructing meaning through sensory engagement. By acknowledging the plurality of the senses and embracing sensory mediation as an interpretive resource, contemporary museums can offer richer, more inclusive, and more critically engaged encounters with the past.

Following the sensory turn in museum studies, affect theory offers an additional and complementary framework for understanding how museums engage visitors on an emotional and embodied level. Drawing on the broader affective turn in the humanities and social sciences, Marzia Varutti (2023) situates museums within a theoretical context that foregrounds emotions as central to the production of meaning. Varutti emphasizes that museums have always been affective institutions in the sense that they evoke emotional responses. However, what distinguishes contemporary museum practice is the growing intentionality with which affect and emotions are mobilized. The affective turn marks a shift from considering emotions as incidental or secondary effects of exhibitions to recognizing them as deliberately curated elements. This development reflects broader changes in curatorial thinking, where emotional engagement is increasingly seen as a legitimate and valuable mode of communication, alongside cognitive and educational objectives (Varutti, 2023). To theorize this shift, Varutti introduces the concept of affective curatorship. This notion functions as an analytical tool that brings together a range of emerging curatorial strategies aimed at shaping visitors' emotional experiences. Affective curatorship refers not to a single exhibition model, but to a spectrum of practices in which affect is activated through exhibition themes, spatial and atmospheric design, multisensory environments, and visitor participation.[7] Through this lens, affect becomes a connective force that links curatorial intention, exhibition design and visitor subjectivity. Central to Varutti's argument is the understanding of affect as both embodied and relational. Affect arises in affective encounters, where curatorial decisions, exhibition features, and the visitor's personal background and emotions intersect, producing meaning not as something simply transmitted from the exhibition to the visitor, but as something that emerges through these encounters, where emotions mediate how objects and narratives are perceived and interpreted. In this sense, affective curatorship operates within in-between spaces, where curatorial agency and visitor interpretation meet without being fully controllable. Varutti identifies three ways in which exhibitions can create affect: Through emotions that are directly part of the theme, through the design and atmosphere of the exhibition, and through participatory activities that involve visitors and create emotional responses (2023). While analytically distinct, these approaches often overlap in practice, reinforcing the idea that affective curatorship is not a prescriptive model but a flexible framework for understanding contemporary curatorial strategies. Importantly, Varutti does not frame affective curatorship as a form of emotional manipulation or spectacle. Instead, she stresses that affective responses can not be fully predicted or controlled, as they are shaped by visitors' individual subjectivities and broader cultural backgrounds, so it means that each and every visit will be different and unique. In this context, the role of the curator, therefore, is not to dictate emotional outcomes, but to create conditions that enable meaningful affective encounters. This openness introduces creative potential in shaping personal reflection, memory, empathy and at

[7] Nina Simon's The Participatory Museum (2010) represents a key contribution to discussions of participation in contemporary museums.

the end, collective identity, which could often be constructed in war or in general, in history museums, as Howes mentioned. Within this framework, affective curatorship is presented as a significant transformation in how museums understand their social and cultural roles. By foregrounding emotions and affect, museums can foster deeper forms of engagement that resonate with visitors' lived experiences, particularly in contexts marked by social uncertainty, crisis, and emotional complexity. Varutti ultimately argues that affect offers a powerful lens for rethinking museum relevance today, positioning museums as spaces not only for learning and preservation, but also for emotional resonance, reflection, and transformation, ultimately functioning as safe spaces for visitors. Following the discussion of visually dominant and affective curatorial approaches, museum interpretation could be further expanded through diverse interpretive models. Such approaches would not only offer alternative perspectives and improve accessibility for blind and visually impaired visitors, but also foster greater empathy and a stronger sense of belonging among communities that have historically been marginalised by museum institutions. This could include interpreting objects through the conditions of their production, particularly in cases where artists experienced disability or other embodied constraints during the creative process, thereby opening up new ways of understanding both the object and its context.

5. **Conclusion**

The future of museum communication does not lie in replacing visual interpretation, but in moving beyond its long-standing dominance. Rather than treating sensory and affective museology as separate theoretical approaches, this paper argues that their integration offers a practical framework for more inclusive museum communication. While sensory museology expands the ways in which museum content can be perceived and interpreted through multiple sensory modalities, affective curatorship provides strategies for creating meaningful emotional engagement that supports participation, empathy and personal connection. Together, these approaches enable museums to address communicational barriers that conventional accessibility measures often overlook. Their practical value extends beyond improving access for blind and visually impaired visitors. By encouraging multiple modes of interpretation, sensory and affective approaches recognize the diversity of visitors' perceptual abilities, lived experiences and ways of constructing meaning. They therefore contribute not only to accessibility but also to a broader reconceptualization of museum interpretation. This paper further suggests that inclusive interpretation should move beyond adapting existing exhibitions and consider alternative interpretive narratives. Interpreting objects through the conditions of their production, for example, by acknowledging artists' experiences, including disability where relevant, offers opportunities to connect museum collections with broader questions of identity and social inclusion. Such interpretive strategies have the potential not only to make museums more accessible, but also to foster empathy, challenge dominant narratives, and strengthen the visibility of communities that have historically remained marginalised within museum representation. The contribution of this paper therefore lies in bringing together

sensory museology and affective curatorship as complementary rather than separate frameworks, demonstrating that inclusive museum communication depends not only on expanding sensory access, but also on creating interpretive experiences through which diverse visitors can recognize themselves as legitimate participants in the production of museum meaning. In doing so, museums have the potential to become spaces that communicate not only through what is seen, but through what is felt, remembered and experienced. Rather than offering definitive answers, this paper proposes a new theoretical point of departure by positioning affective curatorship and sensory museology within the field of museum communication theory. By integrating these perspectives, museum communication is reconceptualized not as a linear process of transmitting information, but as an ongoing dialogue shaped by negotiation between institutions, objects, spaces, and diverse publics. Such an understanding acknowledges that meaning is continuously co-produced through embodied, sensory and affective encounters rather than determined solely by curatorial authority. Whether museum audiences, whose diversity and evolving expectations continue to reshape museological practice, will ultimately become a blessing or a curse for museums, as Šola (2011) metaphorically suggested, remains to be seen.

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ACCESSIBLE INTERPRETATION TECHNIQUES FOR VISITORS WITH DISABILITIES AT CULTURAL HERITAGE SITES

Özge ÇALHAN

ACCESSIBLE INTERPRETATION TECHNIQUES FOR VISITORS WITH DISABILITIES AT CULTURAL HERITAGE SITES

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Abstract

The participation of individuals with disabilities in tours is increasing with growing awareness. Today, there are tour programs designed exclusively for individuals with disabilities. When participating in tours not specifically tailored for them, these individuals may encounter a wide range of barriers. These obstacles include: the physical inaccessibility of the areas visited at the destination to all types of disabled individuals; in cases where the tour program includes accommodation, the accommodation facilities may not be compatible with each type of disability; and if the tour program includes museum visits, the museums may not be accessible to these disability groups. Visitors with disabilities experience difficulties in many different areas of the services included in the tour. One of the important factors affecting the quality of the tour among these obstacles is that the tour guide's narration is not accessible to disabled visitors. Accessible narration means that the services provided to disabled individuals vary according to their type of disability. While it is easier for the guide to provide services to a group consisting only of disabled individuals with the same disability, it becomes more difficult for the guide to provide services to a mixed group including persons with disabilities. In the first example, the tour guide can deal with the needs of these individuals in detail, while in the second case, the guide may have to respond to different needs at the same time. In tour programs that include individuals with disabilities, an explanation that suits the majority of the group is given. For this reason, it is not possible to speak of an accessible narrative. On a tour where the entire group consists of individuals with the same disability, the tour guide will also be able to provide an accessible narrative for this group. In this case, both the disabled visitor and the guide's job will be easier, and disabled visitors will be able to enjoy a pleasant tour experience. For accessible interpretation, the tour guide must know and recognize the needs of each disability group and adapt their narration accordingly. This study examines cultural heritage, the interpretation of cultural heritage in the tour guiding profession, and the concepts of accessible interpretation, and presents a case study example for accessible interpretation. The TORE model was used to reveal accessible interpretation in the case study example.

Keywords

Accessible Interpretation, *TORE Model*, *Visitors with Disabilities*, *Tourist Guides*, *Cultural Heritage*

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Accessible interpretation is an element carried out within the concept of accessible tourism. The European Network for Accessible Tourism defines the content of accessible tourism under the headings of accessible information, accessible transportation, accessible infrastructure, and accessible services (European Network for Accessible Tourism [ENAT], 2015). Regarding accessible information, tourists with disabilities need accurate and reliable information regarding accessibility conditions at destinations, including transportation and accommodation. Even if the accessibility levels of destinations are at their highest, the lack of accessible information can limit the places disabled tourists can visit and the activities they can participate in. Accessible transportation refers to the availability of land, sea, and air transportation for everyone, which is one of the fundamental elements for participating in tourism activities. **Accessible infrastructure:** In outdoor activities, environmental conditions can restrict the mobility of individuals with mobility, visual, or other sensory and perceptual impairments. Therefore, the infrastructure of destinations should be designed to facilitate access for disabled individuals to the services or activities offered. **Accessible services:** Services should be provided by trained personnel, taking into account the support needs of individuals with mobility impairments, complete or partial visual impairments, hearing impairments, as well as children and adults with learning difficulties, in order to ensure that their tourism experiences are satisfactory.

Although there is no direct study on the concept of accessible interpretation in the literature, some research has highlighted the shortcomings that disabled individuals face in accessing accessible interpretation. These studies have shown that the most significant problem experienced by disabled individuals during their travels is the lack of accessible information (Chikuta et al., 2017; ENAT, 2015). A cultural heritage value can have many different interpretation alternatives, such as printed and written inventories, technology-based applications, and guided narratives. However, since these applications are generally not designed specifically for disabled individuals, they face difficulties in accessing accessible interpretation.

While the accessibility of the tour guide's narration is not a sufficient factor on its own for conducting and managing tours for people with disabilities, it is one of the key elements that will play an active role in the tour experience. The suitability of the destination where the tour takes place for the disabled group, the availability of services such as toilets, tactile or auditory elements in museums, transportation facilities such as ramps, and technological support that can be used in the interpretation of cultural heritage values constitute other key elements that affect the overall feasibility and satisfaction levels of the tour. The alternative interpretation options currently offered to visitors on tours are grouped into two categories: Textual narratives and guided narratives (Figueira, 2024). Guided interpretations are particularly important for groups with disabilities. Face-to-face interpretation is widely accepted as the most effective form of interpretation because it can utilize communication strategies that are not available in impersonal interpretation approaches. Furthermore, various factors such as limited language proficiency, low literacy levels, and time constraints can cause visitors to become heavily dependent on personal interpretation (Armstrong & Weiler, 2003). One of the sub-elements of the concept of enjoyment, which is one of the four main components necessary for a successful interpretation as specified in the TORE model, is two-way communication.

Interpretation can be carried out by many different sources. There are various tools available to present the concept of interpretation. Printed inventory items such as brochures, catalogues, and posters, along with tools such as screens, projections, holograms, virtual reality, and artificial reality, which have come into use with the advancement of technology, are used in the interpretation of different cultural heritage elements. In addition, tourist guides preferred by groups are also an interactive method for the promotion, narration, and interpretation of cultural heritage. For this reason, guided tours that enable face-to-face communication are preferred by groups. Tourist guides, who are included in the interpretation categories where two-way communication, one of the main elements of interpretation for disabled groups, is achieved, are at the forefront of interpretation among other interpretation elements. For this reason, this study investigates how accessible interpretation can be provided by tourist guides and selects tourist guides from the interpretation categories due to their importance in two-way communication. In this study, focusing on interpretation techniques within the TORE model, the accessibility of tourist guides' interpretation performance for tourists with disabilities was investigated.

1. **Cultural Heritage**

By showcasing a nation's historical symbols, cultural heritage not only attracts tourists but also serves as a strong pillar for reinforcing national identity (Palmer, 1999). Cultural heritage encompasses not only historical sites, object collections and monuments but also living expressions and traditions inherited from ancestors and transmitted to future generations, including performing arts, oral traditions, rituals, social practices, festive events, as well as knowledge and skills related to traditional crafts and nature (UNESCO, 2014). Tangible heritage refers to physical elements that can be seen and touched, such as monuments, build-

ings and historical sites (Rodzi et al., 2013). Intangible cultural heritage plays a crucial role in understanding diverse societies, fostering intercultural dialogue, and promoting mutual respect across different aspects of life (Yang et al., 2018). In traditional architecture, tangible and intangible cultural elements are integrated and developed in accordance with the traditional content (Karakul, 2007). Unlike natural heritage, cultural heritage is more challenging to appreciate without guided interpretation. To effectively convey its value, heritage site authorities should establish professional teams to provide interpersonal interpretation and support tour guides in delivering and promoting interpretive services (Van Zyl, 2005; Weng et al., 2020). During heritage interpretation, guides serve various functions, such as informing visitors about cultural or natural values and ensuring that tourists stay on designated routes to protect the environment (Heitmann & Robinson, 2009). In order for cultural heritage values to be properly understood, they need to be explained and interpreted. Effective heritage interpretation allows visitors to grasp the historical significance of these values and makes the heritage experience more meaningful. Insufficient interpretation can lead to the misappropriation of cultural values. Modern technologies, including virtual reality, can support and enrich heritage interpretation (Araoz, 2006). Destinations enhance their appeal by expanding cultural offerings, such as new museums or heritage centers, and promoting intangible cultural elements like events, gastronomy, and local atmosphere. Collaboration among local communities, stakeholders, and public-private partnerships is essential to develop cultural tourism products, implement innovative policies, and position destinations as cultural experiences (OECD, 2009).

1.1. **Interpretation of Cultural Heritage in Tour Guiding**

Cultural heritage sites are places that bridge the past and the present. Merely presenting these sites to visitors physically is not sufficient for understanding cultural heritage. Interpretation is a process that goes beyond conveying information to visitors; it enables them to form emotional and cognitive connections (Tilden, 1977). Cultural heritage is used in cultural tourism activities to add uniqueness to tourist experiences today by presenting a narrative about the past. This narrative can be a reinterpretation of the past or an original record. Interpretations carried out with a tourist guide enable two-way interaction between the tourist guide and visitors. This allows for dynamic face-to-face communication with tourists in cultural heritage sites (Munro et al., 2008). Moscardo (1996) outlined four principles that are important for better transmission of heritage values and effective interpretation: "Increasing visitor attention, raising interest in interpretive materials, increasing visitor preference for tours, and higher levels of recall and learning from interpretation." (Moscardo, 1996). The interpretation of cultural heritage should be enhanced in a way that improves tourist experiences. Therefore, various interpretation tools should be available within the tour to enhance tourist experiences (Mitsche et al., 2013). The interpretation of cultural heritage is important in terms of intercultural and intergenerational interaction and mutual understanding. Technology, research, and education are necessary for better heritage interpretation. Some general principles necessary for effective cultural heritage interpretation are as follows (Interpretation and

Presentation of Cultural Heritage Sites, ICOMOS, 2008); effective heritage interpretation should enhance visitors' experiences while fostering greater appreciation and understanding within the community of the significance and value of heritage. It should create an emotional connection between visitors and heritage sites by going beyond the provision of factual information and promoting deeper understanding. Interpretation should also encourage visitors to reflect on and critically reconsider their own perceptions and perspectives. An important objective of interpretation is to increase public awareness of the need to protect and conserve cultural heritage. The development of heritage interpretation programs should involve all relevant stakeholders, ensuring that different perspectives and forms of knowledge are represented. Interpretation should be accessible both on-site and through a variety of communication channels, including publications, digital platforms, videos, and websites. Heritage interpretation should encompass written records, traditional practices, tangible remains, and the meanings and values associated with a heritage destination. Such interpretations should be grounded in reliable evidence derived from recognized scientific research methods as well as from living cultural traditions. Furthermore, interpretation activities, together with the research, documentation, and information sources upon which they are based, should be systematically recorded and archived to support future research and interpretation practices. The cultural and spiritual traditions connected with a heritage destination should also be incorporated into interpretation. This includes local stories, music, dance, theatre, literature, and visual arts, all of which can contribute to a more comprehensive understanding of the heritage and its cultural significance. Ham (1992) has demonstrated that an effective interpretation concept must be based on four fundamental principles. These principles are as follows: "Interpretation is pleasurable, interpretation is relevant, interpretation is organized, interpretation has a theme".

1.2. **The Concept of Accessible Interpretation**

The concept of accessibility refers to the idea that individuals with disabilities should be able to live their lives with the same opportunities as individuals without disabilities. The concept of accessible interpretation, on the other hand, refers to ensuring that individuals with disabilities can benefit from alternative interpretation techniques used by individuals without disabilities to the same extent when acquiring information. The classification of individuals with disabilities worldwide is based on international approaches accepted by the World Health Organization and the United Nations. The International Classification of Functioning, Disability and Health model has been proposed for this classification. According to this model, there is a classification of physical, visual, hearing, mental, psychological, speech and language, autism spectrum disorder, and chronic disease-related disabilities (United Nations [UN], 2020; World Health Organization [WHO], 2023). Within this classification, individuals with disabilities in the tourism sector are predominantly visually, hearing, and physically impaired. The majority of academic studies have also been conducted on these individuals with disabilities (Daniels et al., 2005; Lovelock, 2010; Mülayim & Özşahin, 2010; Poria et al., 2010; Takeda & Card, 2002; Yau et al., 2004; Zajadacz, 2014).

When learning about cultural heritage, individuals with visual impairments require tactile, auditory, and descriptive content. Hearing-impaired individuals, on the other hand, need visual narration, written texts, and sign language support. Individuals with physical disabilities need information boards at a height and location where they can read, in addition to physical access. Individuals with cognitive difficulties want to benefit from simple language, clear structure, and visual support. Accordingly, for the visually impaired, tactile interpretation through embossed maps, copies and models of cultural heritage objects that can be touched, and explanatory panels prepared in Braille can make printed materials, which are the primary group of interpretation for the visually impaired, accessible. For hearing-impaired individuals, audio guide systems, descriptive narrations, and videos or screens prepared in sign language can also make printed materials, which are the primary means of interpretation for hearing-impaired individuals, accessible.

Accessible interpretation encompasses methods that aim to make the information provided in cultural heritage sites understandable and accessible to individuals with physical, sensory, cognitive, or mental disabilities. The alternative interpretation options currently offered to visitors on tours are grouped into two categories: Textual narratives (interpretive, educational, and directional signs and panels, flyers and brochures, historical chronology panels, murals, theatre, performances and live storytelling, dioramas, documentary videos) and guided narratives (Figueira, 2024). Another issue that needs to be investigated is the accessibility of interpretation tools in the first category, such as signs, boards, flyers, brochures, wall paintings, performances, diagrams, and videos, for visitors with disabilities. Within the scope of this study, guided narrations, which fall into the second category of interpretation types, were examined through a case study on the necessity of making the narration provided by a tourist guide accessible to visitors with disabilities. In this regard, an effort was made to ensure that accessible narration could be better understood through this case study. In this case study, an example of accessible narration was developed based on the experiences of two tourist guides in Izmir who have been providing services to groups with disabilities, particularly visual impairments, for eight years and two years. No other guide registered with IZRO (Izmir Guides Association) with this level of experience could be found. Accessible interpretation is not available for all different disability groups. However, the fact that the experienced tour guide mentioned above has mainly led tours for visually impaired tourists suggests that their experience is geared more towards visual impairment than other types of disability. Again, conducting accessible interpretations tailored to the specific needs of each disability group during tours with other disability groups is a separate research topic. Tourist guides who will be guiding a group of people with disabilities face difficulties in physically accompanying these groups, as well as in narrating and interpreting, since no such tourist guiding training is currently available. The literature recommends specialization for tourist guides in many areas, and many of these studies also mention the specialization of tourist guides for groups of people with disabilities. A specialization training program for tourist guides in this area should be designed with content that can support disabled visitors both physically and in terms of interpreting cultural heritage.

The questions prepared for the two case studies addressed within the scope of accessible interpretation are based on the principles of effective interpretation found in Ham's (1992) book Environmental Interpretation. Ham (1992) discusses these principles in detail, including their content and how they can be achieved, with detailed examples. Based on these examples, sub-themes were derived from the four main themes mentioned. The following are the recommended criteria that tourist guides should use for effective interpretation:

- Interpretation is pleasurable,
- Interpretation is relevant,
- Interpretation is organised,
- Interpretation has a theme (Ham, 1992).

Ham (2013) transformed the EROT model, which he had detailed in his book "Interpretation: Making a Difference on Purpose" and which was fundamentally based on his 1992 book "Environmental Interpretation," into the TORE model and finalized the model. The principles outlined in the TORE model are as follows:

- Interpretation is thematic,
- Interpretation is organised,
- Interpretation is relevant,
- Interpretation is enjoyable (Ham, 2013).

2. **Methodology**

This study uses a qualitative approach and a descriptive case study design. Case studies involve an in-depth examination of a specific and meaningful unit of analysis within its particular context. The unit of analysis may comprise an individual, a group, a village, an organisation, or other relevant social entities (Bryman, 2012). In this study, a case study was conducted with volunteer tourist guides who participated in tours organised by an association for individuals with disabilities in a province in the Aegean Region of Türkiye. For this purpose, purposive sampling was preferred. Since working with individuals with disabilities requires specialised knowledge, these individuals prefer tourist guides who are familiar with their needs. Therefore, they prefer tourist guides whom they know and regularly travel with. Although the association identified four guides, only two agreed to participate in the case study. Both tourist guides who participated in the study have been organising tours with this association for seven years, mainly to various tourist attractions in İzmir, such as Kemeraltı, Basmane, Agora, Ephesus, and Bergama, as well as to domestic and international destinations in different provinces and countries. The interviews with the two tourist guides were conducted on two different dates in November 2025, at times convenient for the participants. With their permission, the interviews were audio-recorded. Several measures were taken to ensure the validity and reliability of the study. First, the interview questions were developed based on the TORE model. Based on the experts' feedback, necessary revisions were made to

the interview form. To enhance the credibility of the findings, the participants were selected using purposive sampling, ensuring that they had relevant knowledge and/or experience concerning accessibility and interpretation at cultural heritage sites.

The main research question of the study is: "What interpretation techniques do tourist guides use to provide accessible experiences for visitors with disabilities at cultural heritage sites? "Within the scope of this question, the study sought to answer the research question by evaluating the interpretation techniques used by the two tourist guides examined in the case study during their tours consisting entirely of visitors with disabilities, based on Ham's (2013) TORE model of effective interpretation. Ham adapted the EROT model, which he developed in 1992, as the TORE model in his 2013 book. It is observed that the principles of effective interpretation examined in detail in both models are almost identical. The sequence preferred in the TORE model has been adopted as the final model for effective interpretation. The subthemes detailed within the scope of TORE are presented in Table 1.

Table 1
Subthemes of the Principles Necessary for Effective Interpretation

Principles	Subthemes
Interpretation is thematic	Maintaining a logical sequence Using facts, concepts, comparisons, and analogies within a thematic framework
Interpretation is organised	Delivering well-organized information to ensure easy comprehension Ensuring that main points and their related sub-details can be easily distinguished
Interpretation is relevant	Supply meaningful information Try to bridge the unfamiliar world and audience Using examples and comparisons Relating the content to the visitor's experiences or personality
Interpretation is enjoyable	Incorporate humor Incorporate music Two-way communication Entertaining Use powerful, active verb forms Look like you're relaxed and having fun Try to show direct relationships between causes and their effects Combining academic knowledge with life experience Using metaphors for complex interpretations Using analogies to make the topic engaging Creating scientifically accurate narratives

The interview questions were developed based on the sub-themes of the TORE model presented in Table 1. The questions asked during the interviews with the volunteer tourist guides who participated in the study are presented in detail in Table 2**.** A total of 13 questions were developed by the researcher based on the sub-themes that could be adapted to visitors with disabilities. The questions were finalized after receiving feedback from three academics who specialize in accessible tourism.

Table 2
Interview Questions

Themes of TORE Model	Number of Questions	Interview Questions
thematic	Q1	In your tours with individuals with disabilities, how do you maintain thematic narration while observing a logical sequence?
thematic	Q2	In your tours with individuals with disabilities, how do you use facts, concepts, comparisons, and analogies within the framework of a theme?
organised	Q3	In your tours with individuals with disabilities, how do you ensure that information is well-organized and easy to follow during interpretation?
organised	Q4	In your tours with individuals with disabilities, how do you combine academic knowledge with real-life experiences in your interpretation?
organised	Q5	In your tours with individuals with disabilities, how do you make the main points and supporting details easily distinguishable during interpretation?
relevant	Q6	In your tours with individuals with disabilities, what approach do you use to present meaningful information?
relevant	Q7	In your tours with individuals with disabilities, how do you use examples and comparisons in your interpretation?
relevant	Q8	In your tours with individuals with disabilities, how do you help visitors relate the narration to their own experiences or personalities?
relevant	Q9	In your tours with individuals with disabilities, how do you use metaphors for complex interpretations?
relevant	Q10	In your tours with individuals with disabilities, how do you demonstrate direct relationships between causes and effects in your interpretation?
enjoyable	Q11	In your tours with individuals with disabilities, how do you bridge unknown or unfamiliar words with the visitors?
enjoyable	Q12	In your tours with individuals with disabilities, how do you use analogies to make topics more engaging?
enjoyable	Q13	In your tours with individuals with disabilities, how do you create scientifically accurate stories in your interpretation?

After collecting the data of this research, as the data analysis method for the findings, a descriptive analysis approach was used. Descriptive analysis is a type of qualitative analysis that includes summarizing and interpreting predetermined themes into titles. The themes of the TORE model selected for the case study were predetermined, and the data were analyzed based on these themes. This case study was structured based on the stages defined by Hitchcock and Hughes (1995) for conducting a case study. The detailed phases of this study are presented in Table 3.

Table 3
The Phases of this Research

The Phases of the Case Study (Hitchcock and Hughes, 1995)	The Phases of This Case Study
Description of the events in the situation vividly	It was observed that both guides who participated in the study provided detailed descriptions of the content of their interpretation for individuals with disabilities.
A chronological narration of events in the situation	It was observed that both guides who participated in the study followed a chronological order in their interpretation for individuals with disabilities.
Establish an internal discussion between the identification and analysis of events	When the interpretations of the two guides who participated in the study were examined, the content was found to be appropriate for adapting the themes of the TORE model to their interpretations for individuals with disabilities.
Focus on specific individual actors or groups of actors and their perceptions	A case study was conducted to examine tourist guides who provide interpretation for tour groups consisting entirely of individuals with disabilities.
Focus on specific events in the situation	The case study focused on the use of accessible interpretation techniques.
Participation of the researcher as a part of this situation	As a tourist guide, the researcher had previously guided groups consisting entirely of individuals with hearing impairments, which enabled the researcher to become familiar with the case examined in this study.
A way of presenting a special case that will provide a rich presentation of the research topic	The accessible interpretation of cultural heritage for individuals with disabilities represents a distinctive example of social contribution.

3. **Findings**

Table 4 presents the framing of the interpretation techniques used by the participating tourist guides for individuals with disabilities according to the TORE model, based on their responses to the interview questions.

Table 4
Framing Tourist Guides' Interpretations According to the TORE Model

TORE Model Themes	Subthemes of Tourist Guide 1	Subthemes of Tourist Guide 2
Thematic (Q1/Q2)	Empathy/ Using a deductive approach	Give importance to the principles of cause and effect/ Form the image of a sculpture in their minds through the narration
Organised (Q3/Q4/Q5)	Planning the route on mind before the tour/Using examples from anecdotes/ Creating sub-themes under the main themes	Sharing their own opinions and knowledge/ Observing their interests, curiosities, and educational background of them/ try to separate the main topic from the subtopics
Relevant (Q6/Q7/Q8/ Q9/Q10)	Creating a concept tied to the topic/ Focusing not only on the object itself but also on its surroundings/Using a trial-and-error approach/Explaining the layers of an ancient city, I describe them like the pages of a book/making both their emotions visible	Without filling time with unnecessary details/ Aiming to create a holistic perception/ during the initial conversations and small talk/two human heights/Without skipping the essentials
Enjoyable (Q11/Q12/ Q13)	Trying to create a vivid image with sentences/describing a shawl here we have a marriage between silk and felt/ Establishing cause-and-effect relationships	Avoiding monologues/ Do not asking, "Have you ever seen Topkapı Palace before?" but instead ask, "Have you ever been to Topkapı Palace before/striving to provide completely accurate and realistic information

Table 4 presents the sub-themes identified from the responses provided by the two tourist guides who participated in the study, which were subsequently grouped under the main themes of the TORE model. **According to the TORE model, interpretation has four essential qualities. The first one is that interpretation is *thematic*.** Supporting the thematic element of the narrative helps maintain a logical flow and enables the audience to remain more easily focused on the narrative. The tourist guides participating in this study similarly stated in their responses that they adopted a holistic approach in their narratives in order to remain focused on the theme and to avoid deviating from it. The second tourist guide who participated in the study further supported this notion through his/her responses regarding thematic storytelling, stating as follows: "I want to enable them to visualise what I describe in their minds. If I am explaining a sculpture in a museum, I describe its size, how it is positioned, the clothing on it, and its facial expression. In short, I try to help them form the image of a sculpture in their minds through my narration. I know that description is extremely important. I believe that, especially on tours for people with disabilities, a guide should have a strong command of the Turkish language and the ability to convey it effectively" (TG2). The second essential quality is **that interpretation is *organised*.** Well-organised presentation of information and the delivery of narrative details in a manner that does not disrupt the flow are narrative elements that contribute to this theme. Both tourist guides participating in the study stated that they

employed different strategies compatible with the organizational theme in order to ensure an effective flow in their narratives. The first tourist guide who participated in the study further supported this notion through his/her responses, stating as follows: "... In the Bornova tour, "Levantines" is the main theme. Under this, the 19th-century image of the Ottoman Empire, the emerging hybrid culture, and lived stories form the subtopics. If you start talking about the Great Fire of İzmir during a Bornova tour, everyone gets lost in information..." (TG1). The third essential quality is that **interpretation is** *relevant*. It is a theme that encompasses elements that contribute to transforming the narrative into a meaningful form for the listeners. In this regard, the first tourist guide who participated in the study stated that they particularly employed a trial-and-error approach in their responses, while the second tourist guide indicated that they adopted a holistic perception approach. Among the responses provided by the participants to the questions asked within the scope of this theme, the first tourist guide supported this notion by stating as follows: "This depends on the guest's profession, experiences, interests, and curiosity. I use a trial-and-error approach. For example, if I want to explain what a fresco is, I first ask whether they know what plaster is. If they do, I say, "Painting is applied while the plaster is still wet; they dry together and thus become permanent. This is called a fresco. If it is not done on wet plaster but directly on the wall or on dry plaster, we call it a wall painting. Or, if I am explaining opus sectile and we are standing on it, I say, "Now we sit on the floor. First, the marble is carved with a chisel and hammer to create a geometric pattern, and then these recesses are filled with mosaic." I then let them follow the main pattern with their fingers and feel the mosaic filling inside" (TG1). The fourth essential quality is that interpretation is enjoyable. This theme refers to narratives in which space is created for elements such as jokes, music, humour, and entertainment to be incorporated into the content of the narration in order to make the narrative more engaging and enjoyable. Both participants stated that in response to the question regarding which techniques they use when conducting tours with individuals with disabilities-such as jokes and humour, two-way communication, music, entertaining or engaging narration, and maintaining a relaxed and enjoyable attitude- they reported using all of them. Among the responses provided by the participants to the questions asked within the scope of this theme, the first tourist guide supported this notion by stating as follows: "Of course, there are many different methods. For example, when describing a shawl made by combining silk fabric and felt, while they are touching the material, I say something like, "Here we have a marriage between silk and felt. The officiant is Mr Yalçın (the artist), and I am the witness." Or, when describing a historic fortress made of sandstone whose walls have been worn over time, I let them touch it and say, "It's like Kars cheese, full of holes" (TG1).

4. **Discussion**

Tourist guides are key actors in the realisation of a tour. Participants in a tour, as a group, need the presence of a guide accompanying them. The successful execution of a tour is ensured through the guide's primary duty of accompanying the tour. While performing their profession, tourist guides take on roles such as information provider, educator, group leader (Holloway, 1981), as well as information communicator and interpreter (Katz, 1985). Among

these roles, the interpreter role plays a significant part in establishing interactive communication with visitors and is especially important for communication and interaction with the group. In tours that include individuals with disabilities, this interpretation role should evolve into content specifically tailored for these participants. Currently, there is no comprehensive training worldwide for tourist guides that fully covers all disability groups in detail. In 2015, the European Network for Accessible Tourism, in collaboration with European Tourist Guide Associations, organised a paid training for tourist guides in Europe focused on individuals with intellectual and learning disabilities, both face-to-face and online. This training covered topics such as the accessible tourism market, understanding disabilities, tour preparation, and post-tour considerations. The project was named the T-GUIDE project, and it developed a handbook and training course for professional tour guides, which were designed to be tested during live tours. Regardless of whether individuals have intellectual or learning disabilities, the aim was for visitors to participate in professionally guided tours and have an enriching and meaningful tourism experience. Within the scope of this project, three different surveys were used to gather the perspectives of tourism providers, visitors, and tour guides regarding their experiences in guiding individuals with learning difficulties and/or intellectual disabilities. Findings, including the evaluation of tourist guides, showed that out of 152 participating guides, 30% currently provide tours for individuals with disabilities. Most of the guides believed that specialised training in this area is necessary and expressed interest in participating in such a course to acquire the relevant competencies and skills, practical techniques, and awareness of disabilities. They also emphasised that this training should be offered within the framework of a high-standard certification. Disabled visitors participating in this initiative identified various barriers in their experiences with guided tours. These included the accessibility of venues, but even more importantly, aspects of how the tour was delivered, such as the speed of speech, terminology and explanations used, and the space allowed for asking questions and interaction (ENAT, 2015). These findings highlight the importance of the case study on accessible interpretation presented above. As mentioned in the introduction of the study, in addition to the physical barriers encountered by individuals with disabilities during tours, the failure to provide interpretation in a manner suitable for them is also identified as a significant barrier, a conclusion that is confirmed by the results of this research.

When examining studies in the literature on individuals with disabilities and the profession of tour guiding, one study concluded that guides are inadequate in understanding and assisting tourists with disabilities (Daniels et al., 2005). According to the findings of a study examining the provision of services to individuals with disabilities by tour guides at three different selected destinations (the Bally Vaughan Bird and Game Sanctuary located in Highlands, Harare, the Zimbabwe Military Museum, Antelope Park), individuals with different types of disabilities have varying information needs. Therefore, customer-oriented services and tailor-made information play a critical role in meeting individual needs. The study also concluded that, through the experiences they gained, tour guides learned to communicate better and to interpret and convey information more effectively (Chikuta et al., 2017). In a study on tourist guides and the services they provide to groups with disabilities, it was stated that, in order to

deliver guiding services effectively and successfully, guides must receive training that includes different types of disabilities from an academic perspective. The study concluded that the most emphasised issue was that the lack of training for tourist guides on working with individuals with disabilities negatively affects their sense of competence in conducting such tours. Tourist guides expressed the difficulties they experience in providing services related to the physical conditions of individuals with disabilities (for example, helping the group get on or off the bus, or walking during the tour on-site). Most of the guides did not use any statements emphasising their awareness of how accessible their commentary was for disabled groups. Among the 21 tourist guides participating in this study, only one noted that not knowing how to use specific methods or techniques for guests with visual or hearing impairments-such as how to provide information, services, and presentations, or how to fully inform them about the sites they visit-was a factor that made their job more challenging (Oduncuoğlu & Efendi, 2020).

The concept of accessible interpretation holds significant importance for both tourist guides and tourists. However, it appears that this concept has largely remained an overlooked topic for both researchers and tourist guides. Based on the findings of this study, it can be observed that both tourist guides who volunteered to participate in the case study and guided groups consisting entirely of individuals with disabilities employed the themes of the TORE model. It was observed that both guides employed common narrative techniques, such as humour, which are associated with the enjoyable theme. Although the ways in which they used humour differed, it emerged as a common element that brought their interpretive approaches together. The study demonstrates that the TORE model is already reflected in the interpretive practices of tourist guides; however, it also suggests that these practices could be made more effective through specialised training focused on guiding groups of visitors with disabilities. Previous research on this topic also supports this finding (Chikuta et al., 2017; Daniels et al., 2005). One of the key points of convergence between the study and the TORE model is that interpretation is not regarded merely as the transmission of information. Taking into account the diverse sensory, physical, and cognitive needs of visitors with disabilities, supporting interpretation through visual, auditory, and tactile elements, and employing different communication channels demonstrate that interpretation is a holistic process aimed at enhancing the visitor experience. In this respect, the study supports the TORE model's emphasis on establishing effective communication with visitors and adapting interpretation to the characteristics and needs of the visitor.

5. **Conclusion**

Accessible interpretation ensures equal access to cultural heritage values. This increases social inclusion and enables individuals with disabilities to actively participate in cultural life. For visitors with disabilities, ensuring physical accessibility alone is not sufficient; the presentation of information must also be as inclusive as the spatial arrangements. The systematic planning and implementation of accessible interpretation techniques in cultural heritage sites is a fundamental requirement for ensuring equality in cultural rights. Tourist guides are the most critical practitioners of accessible interpretation in the field. The guide's knowledge,

attitude, and skills ensure that accessibility is not limited to physical arrangements. Therefore, accessible interpretation should be considered not as a complementary element of the tourist guiding profession, but as an integral part of the guiding profession. An inclusive guiding approach directly contributes to making cultural heritage meaningful and accessible to everyone. Adapting the tour guide's narrative style and tour organisation to the diverse needs of visitors with disabilities and implementing accessible interpretation creates a more enjoyable travel experience for visitors with disabilities. Traditional guiding approaches are often based on the assumption of a homogeneous visitor profile. However, the findings suggest that structuring the guide's narrative in a flexible and inclusive manner makes the cultural heritage experience more democratic and equitable for visitors with disabilities. The two case studies examined within the scope of this study demonstrate that integrating the themes of the TORE model into interpretation can make cultural heritage interpretation for individuals with disabilities more effective, comprehensible, and efficient for the group. Accessible interpretation is not an additional burden for the guiding profession; on the contrary, it can be considered an element that enhances professional quality and service standards. Training guides in accessibility creates a more understandable and effective interpretation process not only for visitors with disabilities but for all visitor groups. This supports the principle of universal benefit in accessible interpretation. The limitations of the study are that it was restricted to tourist guides who conducted tours for members of an association for individuals with disabilities in only one province. In addition, the majority of the association's members are visually blind individuals. Although the association identified four guides, only two agreed to participate in the case study.

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Assist. Prof. Özge Çalhan graduated from Balıkesir University Tourism Faculty in 2013. She received her master's degree (2013) in tourism management at Türkiye/Çanakkale On Sekiz Mart University. She received her doctoral degree (2021) in tourism management in Türkiye/İzmir Katip Çelebi University. She received her second master's degree (2024) in recreation and tourist guidance in Türkiye/Ege University. She is also national and official tour guide in Turkiye since 2013. She is currently working in the Tourism Faculty, Tourist Guidance Department of İzmir Katip Çelebi University. Since 2018, she has been lecturing on tourism topics such as tour guiding, tourism geography, tour planning and management, specialisation in tour guiding, cultural and natural heritage, interpretation of heritage, and cultural tourism.

How can cultural heritage be made more accessible, participatory and meaningful for diverse communities? Inclusion in the Cultural Heritage Sector explores how people encounter, interpret and contribute to heritage with different abilities, ages, identities and social circumstances. Interdisciplinary perspectives and international examples are brought together in this volume as inclusion is understood not only as physical access but also as communication, learning, representation and belonging. The chapters cover accessible heritage tourism, inclusive museum practices, cultural heritage education, multisensory interpretation, digital storytelling, immersive technologies and participatory methods. They address people with disabilities, children and young learners, gifted students, migrants and other communities whose perspectives may not be represented in cultural institutions. Contributions also consider sustainable mobility, community initiatives and access to digital cultural resources equitably. Conceptual discussions are linked with research and practical experience in this collection so that cultural institutions, educators, policymakers and heritage professionals can figure out barriers and construct more inclusive opportunities for engagement. The book encourages readers to comprehend heritage as a shared cultural resource constructed through dialogue, participation and various ways of knowing and experiencing the world.

TÜBA

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