

Entrepreneurial Innovation in Experimental Cinema: Digital Technologies, Immersive Media and New Educational Business Models

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Abstract: This paper examines entrepreneurial innovation at the convergence of experimental cinema, immersive media, and digital education, emphasizing how emerging technologies are reshaping creative industries and educational ecosystems. By integrating virtual reality (VR), augmented reality (AR), motion capture, artificial intelligence (AI), 360-degree filming, and large-scale immersive projections, experimental and avant-garde cinematic practices evolve into scalable educational and entrepreneurial ventures. The study explores how digital technologies enhance experimental film production for educational purposes by enabling immersive, interactive, and multisensory learning experiences that exceed traditional pedagogical approaches. These innovations foster increased learner engagement, deeper comprehension, and improved retention of complex information, positioning experimental cinema as a driver of educational innovation. Additionally, the paper analyzes the growth of immersive projection industries within the cultural and creative sectors, referencing prominent venues such as Atelier des Lumières (Paris), Bassins des Lumières (Bordeaux) and Carrières des Lumières (Les Baux-de-Provence). These cases illustrate how advanced projection technologies, spatialized sound, and 360° mapping enable new experience-based business models, transforming architectural spaces into interactive storytelling environments. From an entrepreneurial perspective, the research highlights how experimental cinema and immersive media act as innovation laboratories that stimulate cross-disciplinary collaboration among filmmakers, educators, technologists, and cultural entrepreneurs. The findings suggest that immersive digital tools not only redefine creative production and pedagogical methodologies but also democratize access to high-quality educational content and generate sustainable opportunities within the experience economy. This paper contributes to innovation and entrepreneurship scholarship by addressing an underexplored intersection between experimental film, educational technology, and immersive industries. Its originality lies in mapping the synergies between digital storytelling, education, and entrepreneurial innovation, offering valuable insights for creative entrepreneurs, educators, cultural institutions, and policymakers seeking to expand the boundaries of interactive learning and creative enterprise.

Keywords: Entrepreneurial Innovation; Experimental Cinema; Immersive Media; Digital Education; Creative Industries; Experience Economy

1. Introduction

The accelerated transformations driven by digital and emerging technologies - such as virtual reality (VR), augmented reality (AR), and artificial intelligence - have profoundly redefined both the creative industries and contemporary educational practices. In this dynamic context, the boundaries between art, technology, and entrepreneurship are becoming increasingly permeable, facilitating the emergence of hybrid forms of cultural production and knowledge transmission. Experimental cinema, traditionally associated with aesthetic exploration, nonconventional languages, and avant-garde discourses, acquires new dimensions through the integration of immersive media, which transform the viewer into an active participant and redefine the narrative experience.

This convergence between experimental film and immersive technologies creates a fertile framework for innovation, not only at the artistic level but also in education and entrepreneurship. Immersive media enable complex simulations, interactive experiences, and exploration-based learning, opening new perspectives on how knowledge can be constructed and internalized. At the same time, the experience economy fosters the development of business models centered on interactivity, personalization, and emotional engagement, where creative content becomes a key driver of economic value.

However, the central problem motivating this research lies in the lack of an integrated approach that correlates experimental cinema, immersive media, and digital education within a coherent entrepreneurial framework. Although each of these fields has been extensively studied independently, their intersection remains insufficiently theorized and applied in practice. This fragmentation limits innovation potential and reduces the capacity of stakeholders in these sectors to capitalize on existing synergies.

In this regard, the paper aims to contribute to the development of a conceptual and applied framework that integrates these dimensions.

The main objectives of the study are:

1. To analyze the role of immersive technologies in transforming cinematic practices, particularly in the experimental domain;
2. To explore the educational potential of these technologies, with an emphasis on experiential and interactive learning;
3. To highlight emerging entrepreneurial models that leverage the convergence between art, technology, and education in the context of the digital economy.

The paper also examines the evolution of immersive projection industries within the cultural and creative sectors, with reference to emblematic spaces such as *Atelier des Lumières*, *Bassins des Lumières* and *Carrières des Lumières*. These case studies illustrate how advanced projection technologies, spatialized sound, and 360° mapping facilitate the emergence of experience-centered business models, transforming architectural spaces into interactive narrative environments.

Building on these objectives, the research is guided by a series of fundamental questions: How do immersive media transform teaching and learning processes? In what ways can experimental cinema function as a tool for educational innovation? What types of entrepreneurial models emerge from the integration of immersive technologies into the production and distribution of artistic content? And, ultimately, how can this intersection contribute to the development of sustainable creative ecosystems?

By addressing these questions, the study aims not only to analyze an emerging phenomenon, but also to provide both theoretical and practical reference points for researchers, educators, and entrepreneurs interested in harnessing the transformative potential of immersive technologies in the fields of experimental cinema and contemporary education. A central issue addressed by this study is the role of immersive technologies in transforming contemporary filmmaking, particularly experimental cinema. Technologies such as virtual reality, augmented reality, AI-generated imagery, and immersive projection systems redefine cinematic language by expanding the spatial, sensory, and participatory dimensions of audiovisual storytelling. In this context, experimental film provides a relevant framework for examining the convergence between immersive media, creative innovation, and new forms of artistic production.

2. Literature Review

Experimental cinematography is characterized by its rejection of traditional narrative conventions and its exploration of innovative visual and sensory forms. It represents an domain of cinematic practice, defined by its opposition to the narrative and aesthetic conventions of mainstream film and by its exploration of the possibilities of the moving image. In specialized literature, it is frequently associated with the terms “*avant-garde*” or “*underground cinema*”, characterized by non-narrative, abstract forms and an approach oriented toward formal and perceptual experimentation. In *Visionary Film: The American Avant-Garde, 1943–2000*, Adams Sitney defines experimental cinematography as a form of expression focused on the exploration of subjectivity, perception, and the formal structures of the image, in contrast to the narrative conventions of classical cinema (Sitney, 2002). In *Experimental Cinema in the Digital Age*, Le Grice analyzes the transformations generated by the transition from analog to digital media, emphasizing that experimental cinematography retains its exploratory function while expanding its means of expression. Le Grice argues that with the emergence of digital media, the emphasis shifts from the final result to the process, stating that “*it is not the final product that matters, but the program*” and the way it generates the visual experience (Le Grice, 2002). A complementary perspective is offered by David Bordwell and Kristin Thompson in *Film Art: An Introduction*, where experimental film is analyzed as a form of cinema that expands language through the use of unconventional techniques of editing, composition, and the relationship between sound and image. They emphasize that, although marginal from an industrial perspective, experimental cinematography has had a significant influence on mainstream cinema, particularly in terms of visual styles and the aesthetics of music videos, advertisements, and auteur films (Bordwell et al., 2010). Experimental cinematography can be understood as a “*laboratory*” of cinematic language, in which forms of visual expression and ways of engaging the spectator are tested. It contributes not only to the development of film aesthetics but also to the redefinition of the viewer’s role, who becomes an active participant in the process of meaning-making.

Immersive media and emerging technologies - the development of digital technologies, such as virtual reality, augmented reality, artificial intelligence, and 360° filming, has led to the emergence of immersive media, which offer interactive, multisensory, and highly personalized experiences. These technologies fundamentally transform the way users interact with digital content, shifting from a passive model of consumption to an active, participatory one. A central concept in understanding immersive media is “*presence*”, defined by Mel Slater and Sylvia Wilbur as the extent to which a technological system succeeds in creating the convincing illusion that the user is situated in a virtual environment. The authors distinguish between technological immersion, determined by system characteristics (resolution, field of view, interactivity), and psychological presence, which reflects the user’s subjective experience (Slater et al., 1997). Janet H. Murray, in *Hamlet on the Holodeck*, analyzes new digital media as emerging narrative spaces characterized by interactivity, immersion, and agency. Murray emphasizes that the user is no longer a mere spectator but becomes an “*agent*” capable of influencing the unfolding of the narrative (Murray, 2003). This transformation is also supported by the early research of Frank Biocca, who explores communication in virtual reality environments and highlights how these technologies fundamentally alter the relationship between body, space, and identity. Biocca argues that immersive media extend the user’s sensory capacities and create new forms of “*mediated presence*” in which the boundaries between the real and the virtual become increasingly blurred (Biocca, 1992). More recently, Jeremy Bailenson, in *Experience on Demand*, demonstrates the significant impact of virtual reality on users’ behavior and cognitive processes. Bailenson highlights VR’s ability to generate empathy and influence attitudes and behaviors by simulating experiences impossible to live in physical reality. Users can experience social situations or alternative perspectives, contributing to the development of understanding and sensitivity toward diverse human contexts (Bailenson, 2018).

Digital education and immersive learning increasingly rely on interactive and experiential models, in which technology facilitates the shift from passive to active learning. Immersive learning represents an emerging paradigm that leverages the potential of virtual environments to create authentic, interactive, and user-centered educational experiences. A foundational contribution in this field is that of Richard E. Mayer, who, in *Multimedia Learning*, formulates the theory of multimedia learning. This theory posits that the learning process is more effective when information is presented through a coherent combination of visual and auditory elements, rather than relying solely on text (Mayer, 2002). Chris Dede argues that immersive environments create unique opportunities for learning-by-doing, a pedagogical model based on direct experience. Dede emphasizes that immersive interfaces allow the simulation of complex situations that would be difficult or impossible to recreate in traditional educational settings (Dede, 2009). Recent research by Makransky and Petersen provides empirical evidence on the effectiveness of using virtual reality in education. The authors show that VR environments can significantly enhance students’ motivation, engagement, and interest due to their interactive and captivating nature (Makransky and Petersen, 2019). However, they caution that merely introducing the technology does not guarantee superior educational outcomes.

Entrepreneurship in the creative industries - the contemporary economy is undergoing a transformation, shifting its focus from the production of goods and services to the creation of meaningful experiences for consumers. Cultural and creative industries are becoming fertile ground for entrepreneurial development, offering opportunities based on creativity, technology, and audience engagement. A key reference for understanding this phenomenon is Joseph Pine II and James Gilmore’s *The Experience Economy*, in which the authors argue that the modern economy is evolving from goods and services toward experiences. In this paradigm, economic value is no longer determined solely by functional utility, but by the capacity to generate emotional engagement and memorability (Pine and Gilmore, 1998). This economic transformation is also supported by Richard Florida’s theory of the creative class. Florida emphasizes that the economic development of contemporary societies is linked to their ability to attract and sustain creative individuals - artists, designers, developers, researchers - who generate ideas, innovations, and cultural content (Florida, 2002). Henry Jenkins introduces the concept of participatory culture in *Convergence Culture*, highlighting the transformation in the relationship between producers and consumers. In the digital era, the audience is no longer a passive receiver but becomes an active participant and even a co-creator of content (Jenkins, 2006).

3. Methodology

This paper is built on an exploratory qualitative approach, suitable for investigating an emerging field at the intersection of immersive technologies, digital education, and the creative industries. By combining the analysis of specialized literature with the examination of relevant case studies and the interpretation of current industry

trends, the research aims to provide a coherent and multidimensional perspective on how immersive projections are transforming cultural and educational experiences.

This methodological triangulation ensures both a solid theoretical foundation and an applied openness toward new innovative models generated within the digital economy.

3.1 Critical Analysis of Academic Sources and Industry Reports

The critical analysis of academic sources and industry reports represents one of the central methods of the research, aiming to provide both theoretical and contextual grounding for the investigative approach. This stage involved the identification, selection, and rigorous evaluation of relevant literature in the fields of immersive technologies, digital education, and creative industries.

The selection of sources was based on criteria such as thematic relevance, academic impact (citations), currency of information, and methodological validity.

The critical analysis involved not only synthesizing existing information but also comparatively evaluating theoretical perspectives and empirical findings. Thus, convergences and divergences among different authors were identified regarding the effectiveness of immersive technologies in education, their impact on cognitive processes, and their role in fostering creativity. This triangulation of information enhances the validity of the research and supports the formulation of conclusions relevant to both academic and entrepreneurial environments.

3.2 Examination of Representative Immersive Cultural Spaces

The second method employed in the research consists of the qualitative analysis of relevant case studies, represented by immersive cultural spaces that integrate advanced digital technologies into artistic and educational experiences. This approach allows for the investigation of how theoretical concepts identified in the literature are applied in real-world contexts.

The selection of case studies was based on criteria such as international recognition, degree of technological innovation, diversity of experiential formats, and relevance to the convergence of art, technology, and education. In this regard, the analysis focused on emblematic spaces such as *Atelier des Lumières*, *Bassins des Lumières* and *Carrières des Lumières*.

The analytical criteria were selected based on both immersive media theory and the operational characteristics of contemporary immersive exhibitions, as they reflect the core dimensions through which immersion, audience engagement, and experiential learning are generated in digital cultural environments. The use of immersive projection technologies, spatialized sound, interactive elements, narrative architectural spaces, audience participation, and educational components was considered essential for evaluating how immersive environments create multisensory experiences, transform spectatorship into active participation, and function not only as entertainment formats, but also as platforms for cultural mediation and informal learning.

The analysis of these spaces considered several dimensions:

- the use of immersive projection technologies (video mapping, 360° projections, multi-screen systems);
- the integration of spatialized sound and interactive elements;
- the configuration of architectural space as a narrative environment;
- the types of experiences offered to the public and the level of active participation;
- the educational and interpretative components of the exhibitions.

3.3 Interpretation of Emerging Trends in the Creative Industries

The third method focuses on interpreting emerging trends in the creative industries, with emphasis on the impact of digital transformation and immersive technologies on models of cultural production, distribution, and consumption.

This analysis is based on correlating information extracted from academic literature and industry reports, aiming to identify major directions of development.

These include:

- the shift from passive consumption to participatory and interactive experiences;

- the development of the experience economy;
- the integration of artificial intelligence and extended reality (XR) into creative processes;
- the emergence of new business models based on immersion, personalization, and digital storytelling.

The interpretation of these trends involves an interdisciplinary approach, combining perspectives from fields such as media studies, creative economy, and experience design. In this context, concepts such as “*immersive storytelling*”, “*digital transformation*” and “*creative entrepreneurship*” are analyzed to highlight how they are reshaping contemporary cultural ecosystems.

The method also involves identifying entrepreneurial opportunities generated by these transformations, including the development of hybrid spaces (immersive exhibitions, digital museums), interactive educational platforms, and cultural products based on emerging technologies. The focus is on how these initiatives leverage the convergence of art, technology, and education to create both economic and social value.

3.4 Case Study - Analysis of the AMIEX® Model (Art & Music Immersive Experience)

Complementing the methodological framework, the research integrates an in-depth analysis of the AMIEX® (Art & Music Immersive Experience) model, developed by Culturespaces, as a representative case study for investigating immersive projections in cultural and educational contexts. This approach enables a direct link between the theoretical dimension of the research and the manifestations of immersive technologies in contemporary institutional practices.

The AMIEX® model emerged in 2012 as an initiative for reinterpreting artistic presentation, initially implemented at *Carrières des Lumières* and later expanded to *Atelier des Lumières* and *Bassins des Lumières*. The development of this model reflects a shift in the valorization of cultural heritage, transforming industrial or historical spaces into multisensory exhibition environments capable of supporting visual narratives.

From a methodological perspective, the analysis is based on the examination of its technological, curatorial, and experiential components. The AMIEX® concept employs digital projections, computer animation, and immersive sound design, configured into a system that enables audiovisual experiences. Images are generated using digital techniques that preserve the visual structure of original artworks while recontextualizing them within an expanded spatial framework, where architectural surfaces become supports for visual storytelling.

A central element of the analysis is the curatorial dimension, which marks a departure from the traditional museum paradigm. Within AMIEX® exhibitions, original artworks are replaced by digital reproductions, shifting the focus from material authenticity to the experience of perception. This transformation indicates a reconfiguration of the museum’s role from a space of preservation to a medium of cultural mediation adapted to the digital society.

The analysis of audience experience highlights a shift in the relationship between spectator and artwork. In the AMIEX® context, visitors are no longer passive observers but participants, moving within projections and developing a bodily relationship with the images. This sensory interaction generates an affective experience, differing from the static contemplation typical of traditional museums, and fosters cognitive and emotional engagement.

The AMIEX model represents a standardized system for exploiting immersive art at an architectural scale, where spatial variables, projection density, audience capacity, and narrative structure are calibrated in a repeatable way across locations. The analysis of three venues - *Atelier des Lumières*, *Carrières des Lumières*, and *Bassins des Lumières* - reveals relationships between projection surface, technical infrastructure, and annual audience performance, confirming the existence of an operational model rather than isolated artistic installations.

Table 1: Comparative data of physical and technical parameters

Location	Projection area (m ²)	Exhibition area (m ²)	Video projection systems	Sound systems	Visitors/year
Atelier des Lumières	3.300	1.300	140	50	~1.200.000
Carrières de Lumières	7.000	3.500	100	30	~560.000
Bassins des Lumières	3.400	1.600	90	40	~500.000

Source: AMIEX documentation

The data show that absolute projection surface size is not the determining factor for audience volume; rather, it is the ratio between projection area, projector density, and spatial compactness that influences immersive intensity and visitor turnover. For example, although *Carrières des Lumières* has the largest projection surface (7,000 m²), it does not generate the highest number of visitors, being significantly surpassed by *Atelier des Lumières*, which has half the surface but higher technological density and spatial compactness.

In order for the analysis to go beyond the descriptive level of raw data - such as surface areas, number of projectors, number of speakers, or annual visitor volume - and to achieve scientific relevance, it is necessary to introduce derived indicators capable of expressing functional relationships between these variables. Only by relating technical parameters to spatial dimensions and visitor performance can the technological and spatial efficiency of each venue be objectively evaluated, revealing not how large the installations are, but how intensively and productively they use the available infrastructure to generate immersion and audience capacity.

Table 2: Derived efficiency indicators

Location	m ² Projection/Projector	m ² Exhibition/Projector	Visitors/m ² Projection	Visitors/Projector
Atelier des Lumières	23,6	9,3	364	8.571
Carrières de Lumières	70,0	35,0	80	5.600
Bassins des Lumières	37,8	17,8	147	5.555

Source: AMIEX documentation

The data clearly show that *Atelier des Lumières* operates in a regime of technological hyper-density, with nearly three times more projection coverage per unit area than *Carrières de Lumières*. This density explains its exceptional audience performance, indicating that immersive perception is directly correlated with image granularity and visual omnipresence, rather than the raw monumentality of the space. A second critical element is the standardized narrative model of the shows, identical across all locations: a main exhibition of approximately 35 minutes, followed by a short 4 - 7 minutes sequence created by contemporary artists, with a new set produced annually. This format creates an optimal temporal unit of around 40 minutes, allowing for controlled audience flow rotation and predictable daily capacity, effectively transforming the artistic experience into a programmable system similar to a cinematic cycle, but within an open space - without seating and without a prescribed path.

Table 3: Standardized AMIEX digital exhibition model

Component	Duration	Functional Role	Production Frequency
Main Exhibition	~35 min	Classical artistic narrative, full immersion	Annual
Short Exhibition	4-7 min	Contemporary intervention, rhythmic variation	Annual
Full Cycle	~40 min	Visitor rotation unit	Permanent

Source: AMIEX documentation

This temporal structure, combined with the density of the equipment, explains why these venues can handle hundreds of thousands to over a million visitors annually without creating the sense of typical museum overcrowding.

Table 4: Final comparative synthesis

Key Indicator	Atelier des Lumières	Carrières de Lumières	Bassins des Lumières
Experience Type	Dense, compact immersion	Monumental, cavernous	Balanced
Spatial Efficiency	Very high	Low	Medium
Technological Efficiency	Maximum	Minimum	Medium
Audience Yield	Maximum	Medium	Medium
Exhibition Model	Identical AMIEX	Identical AMIEX	Identical AMIEX

Source: AMIEX documentation

From a methodological perspective, this dimension is interpreted in relation to the concepts of immersion, presence, and experiential learning, highlighting the fact that such environments can function as tools of informal education. The experiences generated within AMIEX® stimulate emotional memory and empathy, facilitating a form of learning based on direct participation and sensory engagement, in contrast to traditional models of knowledge transmission.

Another relevant aspect of the analysis is the role of new media technologies as tools of cultural mediation. Digital projections and sound design create an accessible interpretative framework that allows the general public to interact with artworks without requiring prior knowledge. In this sense, the AMIEX® model can be interpreted as a form of an “augmented museum,” in which technology facilitates the reinterpretation of artistic heritage and its adaptation to new forms of perception specific to the digital society.

The analysis also highlights the contribution of this model to the democratization of access to art. AMIEX® exhibitions attract a heterogeneous audience, including categories that do not usually frequent traditional museums, such as young people, families, or individuals without formal artistic education. The removal of symbolic barriers associated with classical museum institutions and the adaptation of presentation formats to contemporary visual languages contribute to expanding audiences and diversifying cultural consumption.

The democratization potential of the AMIEX® model is supported by both audience scale and accessibility dynamics observed in immersive exhibition spaces. Venues such as Atelier des Lumières attract over one million visitors annually, indicating the capacity of immersive environments to reach broader audiences than many traditional exhibition formats. Furthermore, the multisensory and non-specialized nature of immersive exhibitions reduces symbolic and educational barriers commonly associated with conventional museums. Large-scale projections, immersive soundscapes, free circulation within the space, and experiential storytelling contribute to attracting heterogeneous audiences, including young people, families, and visitors without formal artistic education. These characteristics suggest that immersive exhibition models facilitate broader public engagement with artistic content and expand cultural participation.

At the same time, integrating a critical perspective into the methodological analysis allows for an evaluation of the model’s limitations. The success of immersive exhibitions is accompanied by debates regarding the risk of transforming art into a spectacle primarily oriented toward entertainment and emotion, to the detriment of critical reflection and the direct relationship with the original artwork.

By integrating this case study into the methodology, the research gains a solid applied dimension, enabling the correlation of theoretical concepts with real practices in the creative industries. The AMIEX® model effectively illustrates the convergence of art, technology, and education, highlighting how immersive technologies can generate new forms of cultural experience and support the development of entrepreneurial models based on the experience economy.

Finally, the interpretation of emerging trends has enabled the integration of the obtained results into a broader framework, highlighting the directions of evolution within the creative industries and the entrepreneurial opportunities they generate. The correlation of the three methods ensures a coherent and multidimensional perspective on the studied phenomenon, facilitating the identification of connections between technology, education, and entrepreneurship.

4. Results and Discussion

The research results highlight a significant transformation in the relationship between technology, art, and education, confirming the hypothesis that immersive technologies act as a catalyst for innovation in the creative industries and learning environments.

Beyond their technical novelty, immersive technologies fundamentally transform experimental filmmaking by redefining the relationship between image, space, and spectatorship. Unlike traditional cinema, immersive environments such as VR and 360° film replace passive viewing with spatial and interactive participation, requiring filmmakers to rethink narrative structure, montage, and audience positioning. At the same time, artificial intelligence and real-time rendering systems introduce adaptive and interactive dimensions that expand sensory experimentation and audience engagement. As a result, immersive filmmaking evolves into a hybrid audiovisual form situated at the intersection of cinema, digital art, interactive media, and game design.

The integration of data derived from literature analysis, case studies, and the examination of the AMIEX® model developed by Culturespaces allows for the formulation of coherent conclusions regarding the impact of these technologies on film production, education, and contemporary business models.

The integration of immersive technologies into experimental cinema leads to a profound transformation of cinematic language and of the modes of production and reception. New technologies - virtual reality (VR), augmented reality (AR), and artificial intelligence (AI) - further amplify this direction, extending film beyond the traditional screen and moving beyond linear narrative structures. In this context, contemporary experimental cinema can be understood as a hybrid medium, situated at the intersection of film, digital art, and interactive experience.

The impact on education represents a central dimension, as the use of immersive environments generates significant effects on the learning process, primarily by increasing learner engagement. The interactive, engaging, and multisensory nature of these experiences simultaneously stimulates visual, auditory, and kinesthetic channels, fostering active participation and emotional involvement.

This openness supports the development of informal and extended education, in which cultural spaces and immersive exhibitions become extensions of the traditional educational environment, contributing to the development of cultural and creative competencies in an accessible and attractive way for a diverse audience.

The results demonstrate that the integration of immersive technologies is not merely a technological evolution, but a structural transformation in the way cultural and educational content is created, distributed, and experienced.

5. Conclusions and Perspectives

The paper highlights the essential role of immersive technologies in transforming experimental cinema and digital education, demonstrating that they are not merely technological tools, but structural drivers of change within the cultural and creative industries.

By integrating theoretical perspectives with applied analyses, the research emphasizes the emergence of a new cultural ecosystem, characterized by interactivity, participation, and interdisciplinary convergence.

One of the study's main contributions lies in the interdisciplinary integration of three major fields - cinematography, education, and entrepreneurship - highlighting how they influence one another within the context of digital transformation. The analysis shows that experimental cinema is increasingly adopting immersive formats, while education leverages these technologies to create more effective and engaging learning experiences.

Regarding future perspectives, a clear direction is emerging toward the development of integrated ecosystems in which cinema, education, and technology converge to create hybrid experiences. The integration of artificial intelligence, extended reality (XR), and interactive platforms will continue to expand the boundaries of these fields, generating new forms of artistic expression and new educational models.

In conclusion, the paper demonstrates that immersive technologies are not merely technological tools, but catalysts of cultural and educational transformation. By harnessing their interdisciplinary potential, they can contribute to the development of innovative, sustainable, and relevant practices for contemporary society.

Ethics Declaration

This research was conducted in accordance with applicable international and national ethical standards. Ethical approval was not required as the study did not involve human subjects or sensitive personal data.

AI Declaration

I hereby declare that this work has been created solely through human effort, without the use of artificial intelligence (AI) tools for generating, drafting, structuring, or reviewing the content.

All ideas, formulations, and conclusions included in this work are the result of my personal effort and have not been assisted by software applications utilizing natural language processing technologies or similar AI models.

This declaration reflects my commitment to academic and professional integrity.

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