

VISUAL CULTURE, IMAGE EDUCATION, AND POST-DIGITAL INNOVATION: INTERSECTIONS AND FUTURE DIRECTIONS

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This paper examines the evolving relationship between visual culture, image education, and post-digital innovation, situating these themes within the broader framework of contemporary educational theory and practice. Building on reflections developed through *IMG Journal* over its first five years, the contribution argues that visual culture has become a key epistemic domain for understanding how learning, knowledge construction, and subject formation are reshaped by digital and algorithmic environments. The article advances an epistemological redefinition of visual culture, understood not merely as the study of images, but as an inquiry into visibility, regimes of visibility, and the socio-technical conditions that organise seeing.

Against this background, the paper identifies three interconnected trajectories for future pedagogical development: 'image

ecologies', which frame visual environments as spaces requiring care, critical distance, and responsibility; 'immersive instructional design', which repositions immersive technologies as tools for meaningful and reflective learning rather than spectacular consumption; and 'computational aesthetics', which interrogate the impact of generative artificial intelligence on creativity, authorship, and learning. Through these perspectives, the contribution proposes a model of post-digital visual pedagogy that integrates critical awareness, creative practice, and ethical responsibility. The paper concludes by arguing that education must reclaim a generative and mediating role, enabling learners to navigate contemporary visual environments critically and to inhabit the tensions between human agency, technological systems, imagination, and power.

INTRODUCTION

Over the course of these five years, through *IMG Journal*, we have come to understand how visual culture has become an indispensable interpretative key for analysing the multiple dimensions that characterise the contemporary educational landscape. This is not merely a matter of acknowledging the ever-growing proliferation of images that surround us and solicit us, in different ways, towards diverse forms of interaction, but rather of recognising a shift in the paradigms through which we learn, communicate, construct knowledge, and represent reality. Today, the image is no longer only an object of aesthetic consumption; it functions increasingly as a 'cognitive and social infrastructure', a carrier of data, and an expression of algorithmic systems. This scenario entails profound consequences at the socio-educational level, which is continuously reshaped by emerging technologies. Urgent questions thus arise: what does it mean today to educate in visual culture within a world dominated by digital flows, generative artificial intelligences, and algorithmic platforms? Which competences are required to inhabit, in a critical and informed manner, digital environments that are increasingly visual? On the occasion of the journal's fifth anniversary, it is therefore timely to reflect on these critical junctures by offering a concise conceptual and operational map aimed at a conscious evolution of the relationship between visibility, education, and innovation. More specifically, I will identify three perspectives for development—image ecologies, immersive instructional design, and computational aesthetics—as trajectories for a critical visual pedagogy capable of inhabiting the boundaries between the human and the artificial, between imagination and technique.

RETHINKING VISUAL CULTURE: AN EPISTEMOLOGICAL PERSPECTIVE

'Visual culture', understood as both a theoretical and practical field, is not confined to the iconographic analysis of

images, but encompasses an examination of the ways in which the visual constructs meaning, influences behaviour, orients experience, and shapes social relations. Since the 1990s, visual culture studies have consolidated as an interdisciplinary area bringing into dialogue art history, cultural studies, media studies, anthropology, semiotics, and critical theory, taking as their object not only ‘images’ as such, but more fundamentally the domain of ‘visuality’. The latter refers to practices of seeing, to the dispositifs that organise the gaze, and to the “regimes of visibility” that determine what can be shown, recognised, and legitimised (Winkel, 2005). As clarified by the foundational reflections within the field, this perspective emphasises that no single, stable definition of ‘visual culture’ exists, since the term is mobilised for different theoretical purposes; what ultimately matters is the field’s capacity to generate new research strategies and new configurations of the object through the encounter between visual practices, apparatuses of vision, and viewing subjectivities (Sturken & Cartwright, 2009).

Following the theoretical framework proposed by Mitchell (2005), visual culture entails a paradigmatic shift: images are no longer conceived as inert entities that merely ‘transmit’ content, but as agentive forms that participate in social and cognitive life, interrogating desires, beliefs, and power relations. From this standpoint, Mitchell’s *picture theory* invites scholars to treat images as cultural actors rather than as simple illustrations of verbal discourse. From a different yet complementary perspective, Mirzoeff (2011) has shown how modernity can also be read as a history of conflict between visuality and counter-visuality, linking ‘visual authority’ to dispositifs of governance and hierarchisation—colonial, political, and cultural—and reclaiming a “right to look” as a critical practice (Mirzoeff, 2011). Alongside these contributions, the genealogy of the field is informed by authors who have redefined seeing as a historical and cultural construction: from John Berger, who popularised the idea that every image embodies a “way of seeing” (Berger, 1972, p. X) and thus a social position, to Jonathan Crary

(2013), whose work reconstructs the historical formation of the modern observer by revealing the interconnections between technologies of vision, subjectivity, and modernity. In parallel, texts such as Barthes' *Camera Lucida* (2003) have reinforced the centrality of the spectator's experience and the affective and corporeal dimensions of seeing, opening up a tradition of analysis in which photography –and visibility more broadly– is understood as a perceptual and relational event. This theoretical consolidation has been accompanied by studies that have contributed to the institutionalisation of the field. In particular, *Visual Culture: The Reader*, edited by Evans and Hall (1999), has emphasised that the study of visual culture must hold together at least three dimensions –the sign, the institution, and the viewing subject– thereby underscoring that images always exist within social apparatuses and frameworks of power. From a methodological perspective, research on *Visual Methodologies* by Gillian Rose (2016) has provided tools for analysing visual culture in relation to contexts, practices, and circulation, reinforcing the notion that 'seeing' is a situated act and that the interpretation of the visual requires explicit and critically grounded methods.

Within this framework, the visual becomes the distinctive language of global culture, permeating domains traditionally considered non-visual –such as science, economics, politics, and social media– with direct repercussions for education and training. This widespread diffusion, enabled by platforms and automated processes, raises unprecedented questions: who controls images? How is visual authority constructed? In what ways do algorithmic selection and the logic of attention reshape what appears 'relevant' or 'credible'? The use of immersive technologies –augmented, virtual, and mixed reality– represents a promising yet ambivalent frontier for education. On the one hand, these technologies enable multisensory and engaging experiences; on the other, they may induce forms of perceptual passivity and interpretative delegation, particularly when

visual experience is designed as spectacle rather than as an opportunity for inquiry. The challenge, therefore, lies in conceiving innovation as ‘augmented pedagogy’ rather than as mere technical incorporation, valuing educational design as a critical, aesthetic, and relational act.

Within educational contexts, visual culture constitutes a space of hybridisation for learning. Images –videos, maps, infographics, simulations– are not simply didactic supports, but cognitive and relational environments: they actively participate in the construction of attention, engagement, and memory, as also indicated by neuroscientific research on learning (Dehaene, 2019). A well-designed image can foster deep understanding and conceptual connections; conversely, a chaotic or hyper-stimulating visual environment may hinder concentration and encourage fragmented and superficial modes of engagement.

Despite this, educational systems often remain inadequately prepared to integrate visuality as a transversal competence. ‘Visual literacy’ should not be confined to iconographic decoding, but must also encompass conscious production, ethical reflection on representation, and an understanding of the technological logics –such as filters, metrics, and algorithmic biases– that shape what we see. It is in this sense that visual culture intersects with digital citizenship, calling into question the social responsibility of representation. The advent of digital technologies and, in particular, artificial intelligence has profoundly transformed the ways in which images are created, distributed, and perceived. Images generated by neural networks (GANs), interpreted by artificial vision systems (computer vision), and manipulated in real time through deepfakes and augmented reality have become integral to everyday experience. This transformation increasingly blurs the distinction between what is real and what is simulated (Eugeni, 2015), as well as between what is human and what is automated (Panciroli & Rivoltella, 2021). Yet this may not be the most urgent issue to be addressed through definitive answers. In the face of these mutations, it is instead imperative to develop

an educational approach with broader horizons—one that is not merely technical or functional, but also critical, creative, and ethical. Educating for visual culture today also entails fostering an understanding of algorithms, an awareness of data, and a critical reflection on the relationship between visual coding and power. A pedagogy that conceives innovation as a reflexive and situated practice can offer tools for navigating the contemporary ‘visual landscape’ (Pancioli & Rivoltella, 2021) without being dominated by it, while at the same time making a meaningful contribution to it. From this perspective, visual culture acquires a fully educational value only when situated within an explicit pedagogical framework, in which the relationship between subjects, images, and technologies is understood as constitutive of knowledge processes. In this sense, the visual becomes a ‘infrastructure of mediation’ between sensory experience, educational design, and technological infrastructures (Pancioli, 2019; 2022). Within this framework, the image is no longer merely an object of analysis, but becomes a pedagogical device capable of activating situated, reflective, and critical forms of learning. Integrating visual culture into educational design therefore means recognising the visual as a site of meaning-making rather than as a simple communicative support, reaffirming the role of education as an interpretative and generative practice.

THREE PERSPECTIVES FOR FUTURE DEVELOPMENT

In light of this epistemological redefinition of visual culture, it becomes possible to identify a number of developmental trajectories capable of translating these theoretical premises into operative pedagogical directions. The three perspectives that follow –image ecologies, immersive instructional design, and computational aesthetics– should not be understood as separate domains, but rather as interconnected axes of a visual pedagogy oriented towards the formation of subjects capable of inhabiting contemporary regimes of the visible in a reflective and responsible manner.

Image Ecologies: Towards a Pedagogy of the Visual Threshold

Within a communicative ecosystem characterised by the overproduction and incessant circulation of images, speaking of *image ecologies* entails recognising that the issue is not merely quantitative, but profoundly qualitative and cultural. As Nicholas Mirzoeff has observed, visibility is never neutral: it is always a social practice, a way of organising the visible and, simultaneously, the invisible. In the current hypermediated context, images do not simply represent the world, but actively contribute to shaping emotions and processes of subjectivation. The notion of image ecology explicitly recalls the paradigm of environmental education: just as the natural environment requires care, awareness, and responsibility, so too does the visual environment demand educational practices oriented towards selection and critical distance. Crary has shown how the visual phenomenon is situated within a terrain where abstract, visual, and linguistic elements converge, and how contemporary regimes—sustained by digital platforms and algorithms—produce a condition of permanent vigilance that diminishes the possibility of deep and reflective perception. In this sense, *iconic bulimia* is not merely an excess of images, but a dispositif that affects the ways in which subjects inhabit time and space. Visual education, within an ecological perspective, thus assumes a crucial formative function: teaching how to see less in order to see better, how to recognise the value of emptiness, pause, and threshold. As W. J. T. Mitchell has famously argued, “pictures want” (2005): they demand attention, adherence, and affect. Educating in visual culture therefore means rendering this desire of images visible, unveiling their strategies, and restoring to the subject an active and responsible position. Education thus becomes a space of critical resistance, within which learners are encouraged to interrogate not only images themselves, but also the systems that render them pervasive.

Immersive Educational Design: From Spectacle to Meaningful Experience

Immersive technologies –virtual, augmented, and mixed reality– represent one of the most promising, yet also most ambiguous, terrains for educational innovation. Their potential lies in their capacity to generate embodied, situated, and multisensory experiences that engage the body and space beyond the purely symbolic dimension of text. However, as Laurillard (2014) has emphasised, no technology is pedagogically effective in itself: it is instructional design that determines whether an experience becomes genuinely formative or remains merely a spectacular event.

The primary risk of immersive design lies in the aestheticisation of learning, whereby the effects of presence and wonder replace the construction of meaning. In such a scenario, education may easily slide into a logic of experience consumption rather than critical reflection. To avoid this drift, it is necessary to develop forms of instructional design that articulate pedagogical intentionality, cognitive objectives, and experiential dimensions. Research on situated learning (Lave & Wenger, 2006) and on embodied cognition (Varela, Thompson & Rosch, 1991) demonstrates that immersive experience can foster deep processes of understanding, provided that it is accompanied by moments of reflexivity, reworking, and dialogue. Effective immersive instructional design does not merely aim to ‘provide an experience’, but rather constructs a pathway that integrates exploration, narration, comparison, and metacognition.

In relation to visual culture and AI literacy (Pancirolì & Rivoltella, 2024), immersive technologies become environments in which algorithmic regimes of visibility can be explored in a critical and informed manner. Virtual and augmented reality environments can be designed not only to display content, but also to render explicit the processes of simulation, modelling, and automated decision-making. In this sense, immersive design may become a privileged space for the development of critical competences in relation to artificial intelligence, making perceptible dynamics that would otherwise remain opaque.

Computational Aesthetics and Critical Creativity: Rethinking Art, Authorship, and Learning

Images generated by systems of generative artificial intelligence are profoundly reshaping the concepts of creativity, authorship, and aesthetics. As Manovich (2020) observes, we are witnessing a new phase of visual culture in which the image is no longer the outcome of a single authorial intention, but rather the result of computational processes grounded in datasets, statistical models, and probabilistic operations. Within educational contexts, this scenario opens up unprecedented opportunities. Students are able to engage in dialogue with generative systems, explore visual variants, hypotheses, styles, and combinations that would be difficult to access through traditional tools alone. However, without adequate pedagogical guidance, there is a risk of 'delegated creativity', in which the creative act is reduced to the selection or refinement of algorithmic outputs.

It is precisely at this point that the notion of 'critical creativity' becomes central. Educating for creativity in the age of artificial intelligence entails not only the use of generative tools, but also an understanding and problematisation of the processes that make them possible. As Selwyn (2024) emphasises, AI literacy cannot be limited to operational competences, but must include an epistemic and ethical dimension: who decides what is considered '*beautiful*', '*coherent*', or '*artistic*'? Which imaginaries are reproduced, and which are excluded? Within the field of art education, this approach leads to a reconfiguration of the studio or laboratory as a space of inquiry. Drawing on the idea of "*thinking through images*" (Panciroli, 2019), aesthetic experience becomes a space for thought through code, interrogating datasets, deconstructing and recomposing models, and confronting human intentionality with computational logics. Art, in this sense, confirms its role as a privileged domain for critical AI literacy. Computational aesthetics, far from constituting a mere stylistic category, thus become a pedagogical dispositif: a means of rendering visible the otherwise invisible infrastructures of artificial intelligence and of forming subjects capable of inhabiting contemporary visual culture in a conscious, critical, and creative manner.

TOWARDS A POST-DIGITAL VISUAL PEDAGOGY

The educational challenge that lies ahead is both complex and demanding: to continue building a visual culture capable of holding together imagination and awareness, creativity and responsibility, aesthetics and technique. Within a media ecosystem profoundly transformed by digitalisation and artificial intelligence, images can no longer be regarded as mere communicative supports or ancillary didactic tools. They increasingly constitute cognitive environments, symbolic infrastructures, and mediation devices through which knowledge, identities, and worldviews are constructed.

As already highlighted by reflections on post-digital pedagogy, we no longer live 'after' the digital, but 'within' a condition in which technologies, social practices, and educational processes are structurally intertwined. The post-digital does not signify the overcoming of the digital, but rather a phase of critical maturity, in which attention shifts from tools to relations, from devices to practices, and from novelty effects to their cultural and pedagogical implications. Within this framework, visuality assumes a central role: it is through images that the digital becomes experienceable, interpretable, and open to discussion. Images, however, are never neutral. They embody choices, values, and models of the world; they convey power relations and symbolic hierarchies; and they contribute to rendering certain realities visible while obscuring others. In the age of platforms and algorithms, this dimension is further intensified: what becomes visible is the result of automated selection processes, relevance metrics, and predictive models that often operate below the threshold of awareness. The image thus becomes not only representation, but the outcome of calculation, a sensitive surface of complex systems that intertwine data, code, and decision-making processes.

Rethinking education from this perspective means recognising that visual culture has become one of the primary arenas in which the formation of the contemporary subject

takes place. A post-digital visual pedagogy cannot be confined to teaching how to 'read' images; rather, it must create the conditions for interrogating them, problematising them, and dismantling the mechanisms through which they are produced and recomposed. The image thus becomes not only an object of critical analysis, but also a space of demonstration, conceptual exploration, and creative experimentation. In this direction, education is called upon to reclaim a generative function: not merely to transmit knowledge, but to construct contexts in which students and educators can develop a reflective relationship with the visual, learning to recognise its complexity and ambivalence. Visual pedagogy is therefore grounded in a productive tension between imagination and responsibility: on the one hand, it values the expressive and creative potential of images; on the other, it assumes their ethical, political, and social dimensions. Particularly significant in this scenario is the contribution of intelligent technologies, which amplify the possibilities of visual production and manipulation while simultaneously rendering the underlying processes more opaque. Images generated by artificial intelligence systems, immersive simulations, and data visualisations raise profound questions concerning the relationship between truth, fiction, and verisimilitude. A visual pedagogy does not seek to provide definitive answers, but rather to equip subjects cognitively to inhabit this uncertainty, transforming it into an opportunity for critical learning. In this sense, the image becomes a privileged space for exercising competences in AI literacy, digital citizenship, and critical thinking. Making invisible processes visible – data, algorithms, training logics – means restoring to education its mediating role between technological complexity and human understanding. Schools and universities can thus be configured as spaces in which the visual is not passively consumed, but reinterpreted, discussed, and reinvented. A post-digital visual pedagogy, finally, positions itself consciously at the boundaries between the human and the artificial, between aesthetic sensibility and technical rationality. The aim is not to oppose creativity and technology, but

to explore the hybrid forms of thought that emerge from their encounter. Within this liminal space, education can reclaim its transformative role: forming subjects capable not only of using images, but of ‘thinking through images’, recognising their generative power and assuming responsibility for it.

With its interdisciplinary vocation, *IMG Journal* represents a valuable and indispensable laboratory for accompanying this transformation, combining scientific rigour with imaginative openness. Within a cultural and academic landscape marked by the growing complexity of visual languages and the pervasive presence of digital and algorithmic technologies, the journal positions itself as a critical space of dialogue capable of bringing different forms of knowledge, practices, and perspectives into conversation. Its role is not limited to observing and describing ongoing changes, but extends to actively contributing to the construction of interpretative frameworks, analytical categories, and educational practices capable of orienting such transformations. In this sense, *IMG Journal* assumes a strategic role in promoting a reflection on visual culture that is neither technophilic nor defensive, but rather conscious, problematising, and generative. By offering a shared space of elaboration between research, education, and cultural design, the journal contributes to strengthening a pedagogy of the visual capable of inhabiting the tensions between the human and the artificial, between aesthetic experience and technological infrastructures, and between imagination and responsibility. Its function will therefore become increasingly necessary: not only to observe images, but to construct—together—a critical, reflective, and inclusive visual citizenship, capable of interpreting the present and consciously imagining the possible futures of seeing.

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