

AUGMENTED PEDAGOGY: INTEGRATING GENERATIVE AI IN CREATIVE EDUCATION

Clara Giaquinto

Adjunct Professor / IED - European Institute of Design, Milan (Italy)

Abstract

Generative Artificial Intelligence (GenAI) is reshaping creative education by challenging traditional constructs of authorship and creativity to redefine the learning experience. Once peripheral to design and visual communication, generative systems have become integral to educational practices, requiring educators and institutions to rethink how imagination, creativity, agency, and evaluation are addressed in hybrid human-machine contexts. This paper develops a framework for the critical and ethical integration of GenAI in creative education. Grounded in an interdisciplinary review of academic literature spanning education studies, creativity research, human-computer interaction, and AI ethics, the analysis is also informed by existing classroom-based research reported in recent educational literature. It identifies four key transformations shaping contemporary learning environments. First, GenAI reconfigures authorship and creative agency, positioning educators as mediators and curators of meaning rather than transmitters of knowledge. Second, the automation of creative processes introduces risks of cognitive offloading and stylistic homogenisation, potentially undermining depth and critical capacity if left unexamined. Third, new pedagogical needs emerge, including AI literacy, ethical awareness, inclusivity, accessibility, and sustainability. Finally, assessment practices require rethinking, as output-based evaluation proves insufficient in contexts where algorithms can generate refined results with minimal effort. In response to these transformations, the paper proposes a structured roadmap for the conscious integration of GenAI into creative education. The roadmap is articulated as a phased model that moves from co-design and active listening to theoretical grounding and structured experimentation, and ultimately to multidisciplinary projects and institutional governance. Rather than presenting AI as a replacement for creativity, the augmented pedagogy approach proposed in this paper positions generative systems as catalysts for critical literacy, reflection, and collaborative learning. The contribution of this study is primarily conceptual and pedagogical, synthesising existing research and documented educational practices rather than reporting original empirical validation. By articulating an augmented pedagogy model, a coherent roadmap, and an assessment-oriented approach, the paper offers transferable strategies for educators and institutions. Integrating GenAI into creative education is thus framed not as a technical challenge, but as a matter of pedagogical and cultural responsibility: educating learners who can think *with* technology rather than *through* it, preserving depth, agency, ethics, and imagination in the age of automation.

Keywords: *Generative AI, augmented pedagogy, creative education, accessibility, critical literacy.*

1. Introduction: Generative AI and creative education

Generative Artificial Intelligence (GenAI) is rapidly reshaping creative practices, disrupting traditional structures of authorship and labour within cultural production. As generative systems become increasingly embedded in creative workflows, they challenge established assumptions about originality alongside human agency and expertise (Manovich, 2018). Beyond technical adoption, educators must prepare students to engage critically with AI-driven systems while preserving ethical responsibility and cultural depth alongside reflective capacity (Crawford, 2021). Against this backdrop, this paper examines how GenAI is transforming creative education and proposes a model of *augmented pedagogy* supported by a structured roadmap for its conscious integration. Rather than positioning AI as a replacement for creativity, the framework approaches generative systems as catalysts for critical literacy, reflection, and collaboration within hybrid human-machine learning environments.

2. Research methodology

This study adopts a qualitative, conceptually driven approach grounded in an interdisciplinary literature review across creativity studies, human-computer interaction, AI ethics, and education. Rather

than testing hypotheses or reporting original empirical data, the research synthesises existing scholarship and pedagogical insights to articulate a conceptual framework for AI-augmented creative education.

To situate the conceptual discussion within an empirical landscape, the study draws on recent classroom-based research. For instance, Lee & Suh, (2024) reports ambivalent student responses to the use of tools such as ChatGPT and Midjourney, combining appreciation for accelerated ideation with concerns about originality and its impact on assessment criteria. These findings align with broader critiques suggesting that, while AI promises efficiency, accelerated learning processes may reduce opportunities for reflection and critical engagement central to creative practice (Crawford, 2021; Gerlich, 2025).

3. Key transformations in creative education

GenAI is reshaping creative education by accelerating processes, redistributing roles, and redefining how creativity is produced and evaluated; the following sections examine these transformations, which in practice often unfold unevenly and contradictorily, particularly where institutional norms lag behind technological change.

3.1. Authorship, creativity and the educator as curator

The diffusion of GenAI in creative education challenges established notions of artistic intention and the very nature of original authorship. As generative systems enter creative processes, authorship becomes distributed across human and non-human actors, requiring new literacies to navigate hybrid forms of co-creation. McCormack et al. (2019) argue that creative value depends on Autonomy, Authenticity, Authorship, and Intention (AAAI); since GenAI lacks autonomous intention, it cannot be an author in its own right, but functions within human-directed processes. In practice, algorithmic outputs shift creative value from manual execution toward selection, orchestration, and interpretation, reflecting a *curatorial* mode of creativity described in Manovich's analysis of AI-driven cultural production (Manovich, 2018). From this perspective, authorship becomes a mediated and situated practice in which responsibility for meaning and evaluation remains human rather than algorithmic and is exercised within specific cultural and institutional systems (Floridi, 2023). Within this paradigm, the role of the educator evolves from transmitter of knowledge to mediator and curator of complexity, guiding students to critically evaluate the socio-cultural and aesthetic implications of AI-generated material.

3.2. Cognitive offloading and stylistic homogenisation

GenAI introduces significant cognitive risks in educational contexts, particularly through cognitive offloading, understood as the delegation of memory and problem-solving to external systems. While such delegation may support efficiency, excessive reliance on generative tools risks weakening critical capacity and creative ownership. Empirical research supports these concerns, linking frequent AI use to reduced cognitive effort, diminished critical engagement, and weaker perceptions of authorship (Gerlich, 2025; Chen et al., 2025; Kosmyna et al., 2025). In creative education, these effects intersect with the tendency of generative systems to reproduce dominant aesthetic patterns and bias, contributing to stylistic homogenisation and reinforcing broader dynamics of automation and deskilling. At the same time, the use of proprietary platforms and opaque training datasets raises additional concerns related to data privacy, surveillance, misinformation, and copyright. Taken together, these dynamics risk reshaping creative education in ways that erode intellectual ownership, ultimately undermining student agency under conditions of accelerated AI mediation.

3.3. Emerging pedagogical needs: ethics, sustainability, inclusivity and professional adaptation

In response to the transformations introduced by GenAI, creative education faces pedagogical needs that extend beyond technical proficiency to encompass ethics, sustainability, inclusivity, and professional adaptation. As creative labour becomes increasingly hybrid and algorithmically mediated, students must develop the capacity to examine cultural implications and adapt to evolving professional roles. Qualified competence in this context encompasses critical thinking, ethical awareness, collaboration, and lifelong learning. While creatives could value AI for inspiration and acceleration, empirical research highlights persistent uncertainty around authorship and creative ownership (Jin et al., 2024). These dynamics point to the need for *augmented creative literacy*, understood as the ability to work with generative systems while critically examining their biases and broader cultural footprint. This aligns with foundational discussions regarding intentionality and human agency in generative art (McCormack et al., 2019). Such competencies are central to sustaining creative autonomy and professional confidence within rapidly transforming educational and industry ecosystems and depend on supportive institutional conditions.

3.4. Rethinking assessment in hybrid human-ai contexts

As generative systems can produce technically refined artifacts within seconds, traditional output-based evaluation models become inadequate. In hybrid human–AI contexts, assessment must therefore shift toward process-oriented criteria that value critical reflection, intentional decision-making, and responsible engagement with generative tools. Classroom-based research draws attention to persistent uncertainty among students regarding originality, including plagiarism, and evaluation standards in AI-integrated courses (Lee & Suh, 2024), often compounded by the absence of clear institutional policies governing disclosure and assessment. In this context, projects developed with algorithmic support should be approached as forms of co-creation within hybrid creative systems rather than as misconduct, provided that epistemic responsibility and evaluative judgment remain clearly attributed to human actors (McCormack et al., 2019; Floridi, 2023). Emerging assessment models emphasise reflective disclosure alongside *curatorial intelligence*, understood as the capacity to interrogate and critically frame AI-generated outputs. Updated criteria may move beyond execution alone to consider the integration of human intention and algorithmic contribution, reflective engagement with AI use, technical and ethical competence, and the verification of generated content. Implemented through integrated rubrics and disclosure practices, such approaches support transparency while repositioning the educator as a mediator of complexity rather than a judge of outputs (HBP Editors, 2025; Lee & Suh, 2024).

4. A Roadmap for the conscious integration of GenAI

The transformations outlined in this paper highlight the need for structured pedagogical approaches to guide the integration of GenAI in creative education. Rather than treating AI as a discrete tool or isolated curricular component, its adoption requires a progressive, critically framed integration across educational pathways. The roadmap proposed here outlines a phased approach to AI integration, moving from theoretical grounding to guided experimentation and, ultimately, to complex projects of human–machine co-creation. Conceived as both a pedagogical and institutional framework, it supports the conscious integration of GenAI by aligning educational practices with broader values of ethical responsibility, particularly regarding sustainability and inclusivity, while responding to the challenges identified in the previous sections.

4.1. Co-design and active listening

The initial phase of GenAI integration emphasises co-design and active listening as foundational pedagogical practices. As educators and students encounter generative systems for the first time, integration should prioritise dialogue around past experiences, expectations, concerns, and learning needs, framing AI adoption as a shared and negotiated process rather than a top-down imposition. Active listening supports inclusive learning environments and helps build trust, while co-designing curricula and assignments with students fosters collective responsibility and critical engagement. In practical terms, simple practices such as AI usage logs and brief reflective notes can promote transparency and self-awareness, encouraging students to critically examine how generative tools influence their creative processes (HBP Editors, 2025).

4.2. Theoretical grounding and critical understanding

This phase combines AI literacy with creative and ethical-philosophical studies to develop critical understanding alongside technical skills, encouraging learners to reflect on how algorithmic systems shape creative authorship and representation, while reconfiguring automated decision-making (McCormack et al., 2019; Floridi, 2023). Structured approaches can support this grounding. The PAIR model (Problem, AI, Interaction, Reflection) offers a method for analysing the use of generative tools within creative projects, fostering reflection on algorithmic limitations alongside human oversight (HBP Editors, 2025). Research suggests that assignments integrating theory, case studies, and reflective practice help resist superficial automation and support deeper learning (Roberto, 2024). Critical understanding also extends to the environmental impact of generative systems. Principles of *Green AI* highlight the ecological costs of large-scale models and encourage attention to energy use and resource efficiency (Schwartz et al., 2020). Applied pedagogically, these perspectives invite students to consider not only what is created with AI, but how and at what environmental cost, supporting more sustainable and ethically informed creative practices.

4.3. Structured experimentation

Following theoretical grounding, students engage in structured and supervised experimentation with GenAI, focusing on iterative prompting and output verification, balanced by critical reflection through carefully designed exercises. Evidence from AI-integrated creative courses suggests that structured experimentation can accelerate ideation while supporting awareness of prompt limitations and plagiarism

risks when generative tools are used within defined pedagogical boundaries (Lee & Suh, 2024). Pedagogical scaffolds such as Custom GPTs, configured with briefs or course materials, can support exploration without replacing creative judgement, enabling personalised learning while limiting over-reliance on automation (Ajjan, 2025).

4.4. Multidisciplinary and critical projects

At the stage of multidisciplinary and critical projects, GenAI becomes an active condition of the creative process rather than a pedagogical support. In complex scenarios where design, communication, cultural analysis, and data practices intersect, AI shapes negotiation, interpretation, and responsibility within collaborative work. Within this framework, Custom GPTs may be positioned as institutional, historical, or cultural interlocutors embedded in project narratives, introducing discursive constraints and perspectives that students must critically engage with. Collective practices such as shared prompt repositories further support critical reflection, enabling students to evaluate how meaning, aesthetics, and assumptions are constructed through AI mediation. Research on prompt engineering highlights the value of such approaches in fostering critical engagement and AI self-efficacy (Lee & Palmer, 2025). At this level, assignments may also include bias analysis of datasets or outputs, foregrounding AI as a cultural and political system rather than a neutral instrument (Manovich, 2018).

4.5. Educators as curators and mediators

Within the roadmap, the educator's role shifts from content delivery to the curation and mediation of learning processes. Rather than debating whether AI should be used, teaching practices increasingly focus on critically framing how generative systems are interrogated and integrated within creative education. As Ajjan (2025) and the HBP Editors (2025) suggest, the central question becomes *how*, not *whether*, to use AI. This role involves establishing shared expectations around AI use, including transparent disclosure, critical evaluation of outputs, and reflective discussion of biases and limitations. Beyond governance, educators must safeguard the temporal dimensions of creative learning, iteration, error, and reflective thinking central to creative pedagogy (Frisa, Marcadent & Monti, 2016), within AI-accelerated environments. Educators further mediate differences in experiential and cultural familiarity with AI, as students and faculty may approach generative systems with uneven confidence or scepticism shaped by prior training and professional background (Chan & Lee, 2023; Mourshed & Heavener, 2025). Addressing these asymmetries requires institutional cultures that value mutual learning, combining technological literacy with critical depth and historical perspective. Highlighting this role within the roadmap underscores that integrating AI involves a broader pedagogical reorientation of teaching practices.

4.6. Inclusive and sustainable learning ecosystems

The conscious integration of GenAI requires institutional educational ecosystems that treat inclusivity, accessibility, and sustainability as interconnected responsibilities. At an institutional level, this entails equitable access to licensed tools, transparent assessment and attribution policies, and learning environments capable of supporting diverse student needs; without such conditions, AI risks reinforcing existing inequalities rather than enabling meaningful educational innovation (HBP Editors, 2025). Within inclusive ecosystems, generative technologies can support accessibility through flexible and multimodal formats, while simultaneously functioning as pedagogical objects for critical analysis of algorithmic limitations and systemic gaps. Additionally, awareness of the ecological costs of large-scale models, informed by principles of *Green AI*, encourages students to consider sustainability as an ethical and creative responsibility (Schwartz et al., 2020). At the same time, critical engagement with training datasets is essential to address issues of representation and cultural appropriation, as generative systems may reproduce decontextualised or exploitative imagery when cultural sources are abstracted from their social and historical meanings (Crawford, 2021). Finally, inclusive ecosystems must safeguard students' sense of agency in hybrid human–AI contexts. Reflective practices that reaffirm the value of human intuition, and cultural sensitivity counter alienation when working with generative systems (HBP Editors, 2025), positioning institutions as active mediators of technological change rather than passive adopters.

5. Conclusions

This paper has examined the implications of Generative Artificial Intelligence for creative education, arguing that its integration requires more than technical adaptation. By reframing GenAI as a ethical-cultural and pedagogical condition, the study has proposed a model of augmented pedagogy that positions human agency at the centre of hybrid human–machine learning environments.

Drawing on interdisciplinary literature, the analysis identified key transformations shaping creative education, including the reconfiguration of authorship, the risks of cognitive offloading and stylistic homogenisation, emerging pedagogical needs related to ethics, encompassing sustainability and

inclusivity, and the need to rethink assessment beyond output-based evaluation. In response, the paper articulated a structured roadmap for the conscious integration of GenAI, framing generative systems as catalysts for critical literacy, reflection, and collaboration rather than as replacements for creativity.

Central to this approach is the evolving role of educators as curators and mediators, responsible for shaping learning environments that balance innovation with critical depth, transparency, and ethical responsibility. Assessment, within this framework, becomes a means of recognising process, intentionality, and curatorial intelligence rather than policing technological use. The contribution of this study is primarily conceptual and pedagogical. While the proposed roadmap does not claim universal applicability, it offers a transferable framework that can support educators and institutions across creative disciplines in navigating AI integration responsibly. Ultimately, educating in the age of generative systems is not a question of whether to adopt new technologies, but of how to do so critically and ethically, supporting learners in thinking *with* AI rather than *through* it.

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