Art Education Reform in the AI Era: Opportunities, Challenges, and Pathways

Niu Jia

Philippine Christian University, Malate, Manila 1004, Philippines
Inner Mongolia Electronic Information Vocational Technical College Saihan District, Hohhot, Inner Mongolia, China

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ABSTRACT

This study examined art education reform in the context of artificial intelligence (AI) through a qualitative conceptual analysis grounded in integrative literature review. Rather than presenting a single empirical case, the paper synthesizes recent scholarship from AI in education, higher education policy, creativity research, and art-and-design studies to clarify three central concerns: what is changing, what is at stake, and what institutional pathways are most educationally sound. The analysis identified a shifting educational ecology in which generative AI transforms not only artistic production but also ideation, evaluation, and creative decision-making, repositioning learning toward higher-order processes such as curation and critical judgment. At the same time, significant tensions emerge, including the erosion of originality, risks of overreliance, ethical concerns related to authorship and bias, and challenges to process-based pedagogy and assessment. Drawing on thematic synthesis and conceptual mapping, the study argues that AI should not be treated as either a threat to art education or a neutral efficiency tool, but as a disruptive medium requiring systemic reform. Key institutional responses include curriculum redesign, assessment reform emphasizing process and reflection, integration of AI literacy and ethics, faculty development, and adaptive governance frameworks. Anchored in a constructivist epistemology, the study highlights the importance of preserving human-centered values such as creativity, criticality, and cultural interpretation while engaging with AI-mediated practices. The paper contributes a conceptual framework that supports policy development and future empirical research on sustainable and ethically grounded art education in the AI era.

Keywords: artificial intelligence, art education, curriculum reform, creativity, governance

INTRODUCTION

The current wave of artificial intelligence (AI) has intensified long-standing debates about technology, creativity, and educational change. In higher education, the release and rapid adoption of generative systems capable of producing text, images, audio, and code have pushed institutions to revisit questions of pedagogy, academic integrity, assessment, and professional preparation. Reviews of AI in higher education consistently show both accelerating adoption and a notable need for stronger ethical, conceptual, and pedagogical grounding (Zawacki-Richter et al., 2019; Bond et al., 2024). For art education, these issues are especially urgent because the field has historically linked learning not only to the acquisition of technical skill, but also to imagination, aesthetic judgment, process documentation, interpretation, and the formation of artistic identity.

Recent scholarship suggests that generative AI is not merely another software upgrade for creative classes. It is a sociotechnical shift that affects how students ideate, how teachers guide process, how artworks are evaluated, and how artistic labour is understood. Heaton, Low, and Chen (2024), reflecting on art education in Singapore, show that AI can be pedagogically meaningful when integrated in ways that foreground reflexivity rather than passive consumption. Yang and Shin (2025), examining art and design program education, similarly indicate that generative AI is reshaping the relationship among aesthetic training, interdisciplinary learning, and creative production. Beyond art education narrowly defined, research on student creativity shows that generative AI can support divergent thinking in some contexts while simultaneously reducing creative confidence or promoting

shallow dependence when used uncritically (Habib et al., 2024). These tensions reveal that the core question is no longer whether AI will enter art education. It already has. The more pressing question is what kind of reform will allow art education to respond without losing its humanistic and critical commitments.

AI and the Transformation of Educational Paradigms

The rapid development of AI, particularly generative and multimodal systems, has significantly reshaped contemporary educational discourse. Rather than functioning solely as instructional tools, AI technologies are increasingly understood as transformative agents that reconfigure how knowledge is produced, accessed, and validated. Studies on AI in education highlight its potential to support adaptive learning, multimodal engagement, and personalized instruction, thereby challenging traditional pedagogical models (Lee et al., 2023). At the same time, scholars emphasize the epistemological and ethical complexities of AI integration, including concerns related to bias, authorship, and the reliability of machine-generated outputs (Epstein et al., 2023). These tensions position AI as both an opportunity and a challenge, requiring critical engagement from educators and institutions.

Creativity, Authorship, and the Reconfiguration of Artistic Practice

Within art and design education, AI introduces a fundamental shift in the understanding of creativity and artistic production. Generative AI tools transform the creative process into a collaborative interaction between human intention and algorithmic systems, thereby redefining traditional notions of authorship and originality. Research suggests that AI-assisted artmaking places greater emphasis on conceptual thinking, curation, and critical judgment rather than purely technical skill (Zhang & Xu, 2025). Similarly, broader analyses of AI in the arts frame these technologies as both creative instruments and subjects of aesthetic inquiry, expanding the boundaries of artistic practice (Cetinic & She, 2021). This reconceptualization has profound implications for art education, which must adapt to support new forms of creative agency while preserving core artistic values.

Higher Education Policy and Institutional Responses to AI

The integration of AI into education has prompted calls for systemic reform at the institutional level. Higher education policy literature underscores the need for governance frameworks that balance innovation with ethical responsibility and public accountability. Bantugan (2026a) argues that universities must actively shape AI governance to mitigate risks such as techno-authoritarianism and the concentration of power in corporate entities. His work advocates for multisectoral and democratized approaches to AI policy, positioning higher education institutions as key actors in safeguarding equitable and human-centered technological development. This perspective situates AI adoption within broader debates about institutional identity, social responsibility, and the role of education in promoting the common good.

Pedagogical Adoption and the Social Context of AI Integration

Empirical studies on AI adoption reveal that its integration into educational practice is deeply influenced by social, cultural, and institutional contexts. Bantugan et al. (2024) demonstrate that educators' engagement with AI is shaped by their beliefs, experiences, and professional environments, highlighting the importance of participatory and constructivist approaches to technology use. Similarly, Bantugan et al. (2025a) emphasize the need for deliberate and reflective integration of AI in university teaching, where pedagogical decisions are informed by both technological possibilities and educational values. These findings suggest that effective AI integration requires more than technical proficiency; it necessitates critical awareness and collaborative engagement among educators and learners.

AI, Creativity, and Ethical Tensions in Instruction

The use of AI-powered tools in educational settings introduces both opportunities and challenges for fostering creativity and maintaining academic integrity. Khup and Bantugan (2025) find that AI-assisted writing tools can enhance students' creativity, language proficiency, and engagement, but also raise concerns about dependency and the potential erosion of independent thinking. These tensions are particularly relevant in art education, where

originality and authorship are central to learning outcomes. As such, educators must navigate the balance between leveraging AI's affordances and preserving the integrity of creative and intellectual processes.

Art Education, Cultural Engagement, and Humanistic Foundations

Beyond AI-specific considerations, the broader role of art education remains grounded in its capacity to foster cultural awareness, critical reflection, and social participation. Bantugan et al. (2025b) highlight the importance of arts engagement in community contexts, demonstrating how artistic activities contribute to collective identity and civic participation. Additionally, Bantugan (2023) underscores the role of art in promoting integral human development and social advocacy, emphasizing its transformative potential beyond technical skill acquisition. These perspectives suggest that art education reform in the AI era must remain anchored in humanistic and civic-oriented goals, even as it incorporates emerging technologies.

Toward Conceptualizing Art Education Reform in the AI Era

Taken together, the literature indicates that art education reform in the AI era involves a complex interplay of technological innovation, creative redefinition, and institutional transformation. AI challenges conventional assumptions about knowledge, creativity, and pedagogy, while also opening new possibilities for interdisciplinary and collaborative learning. Bantugan's body of work contributes a critical perspective that foregrounds ethical governance, contextualized pedagogy, and the enduring humanistic purposes of education. Consequently, reform efforts must move beyond mere technological integration toward a holistic rethinking of educational aims, practices, and institutional responsibilities in an increasingly AI-mediated world.

CONCEPTUAL FRAMEWORK

This study is anchored in a **triadic conceptual framework** that explains art education reform in the AI era through the dynamic interaction of three core dimensions: **(1) the changing ecology of art education, (2) the stakes and tensions arising from this transformation, and (3) institutional pathways for educationally sound reform**. These dimensions are not linear but mutually constitutive, forming a recursive system in which technological change generates tensions that, in turn, necessitate institutional response.

The Changing Ecology: Technological Mediation of Creative Practice. At the foundation of the framework is the concept of a **changing educational ecology**, defined as the shifting relationships among tools, practices, learners, and institutional structures. Generative AI represents a qualitative transformation within this ecology because it extends beyond technical assistance into the cognitive domains of ideation, composition, and evaluation. As such, it reconfigures the locus of creativity from individual production to **human–AI co-creation**, where artistic processes increasingly involve interaction with algorithmic systems (Tsao et al., 2025; Yang & Shin, 2025).

This ecological shift also alters core pedagogical assumptions. Traditional studio-based learning emphasizes process visibility, iterative development, and embodied practice. AI-mediated workflows, however, risk compressing or obscuring these processes by enabling rapid generation of finished outputs. At the same time, the ecology expands through increased accessibility, multimodality, and interdisciplinary integration, requiring new forms of literacy such as prompt design, critical evaluation, and bias awareness (UNESCO, 2023). Empirical studies further demonstrate that AI adoption is shaped by institutional and socio-cultural contexts, reinforcing that technological change is inseparable from pedagogical structures (Bantugan et al., 2024).

Thus, the first component of the framework conceptualizes AI not as an isolated tool, but as a **structural force reshaping the conditions of teaching, learning, and artistic production**.

The Stakes: The Stakes: Pedagogical, Ethical, and Epistemological Tensions

At the pedagogical level, AI challenges established notions of originality, authorship, and skill development. The shift toward curation and "meta-creation" repositions creativity as an evaluative and conceptual act rather than a purely generative one (Tsao et al., 2025). However, an overreliance on these tools may weaken a student's

creative confidence and reduce their engagement with the iterative processes essential to artistic learning (Habib et al., 2024). At the ethical level, AI introduces significant concerns regarding copyright, consent, bias, and representational harm. Because generative systems are trained on large-scale datasets, their outputs often reproduce social inequalities and hide questions of ownership (Hagendorff, 2024). Global policy frameworks now emphasize transparency and fairness as essential principles for responsible integration (UNESCO, 2021). Bantugan (2026a) further argues that universities must actively shape these governance frameworks to protect against the concentration of power in corporate entities.

At the epistemological level, AI destabilizes how we understand knowledge and uniqueness in artistic expression. This shift reflects what Pasquale (2015) describes as a "black box society," where the secret algorithms controlling money and information are shielded from the public. In the classroom, this opacity makes it difficult for students to see the hidden commercial biases shaping their creative tools. Furthermore, the speed of AI production risks pushing aside the hands-on, time-intensive learning that has traditionally defined art education. Together, these tensions show that adding AI to a classroom is not just a technical change, but a deep reconfiguration of educational values and purposes.

Institutional Pathways: Human-Centered and Context-Sensitive Reform. In response to these challenges, the framework identifies **institutional pathways for reform** as the third component. These pathways represent structured responses that align technological integration with educational goals and ethical principles.

Curriculum redesign emerges as a central pathway, emphasizing the integration of AI as both a creative tool and a subject of critical inquiry. This includes fostering interdisciplinary learning and embedding AI literacy within artistic practice (Yang & Shin, 2025; UNESCO, 2023). Complementing this is **assessment reform**, which shifts the focus from final outputs to process documentation, reflective analysis, and critical decision-making.

Another key pathway is the integration of **AI literacy and ethics** as core competencies. This extends beyond technical skills to include understanding of data systems, bias, authorship, and societal implications. Bantugan's work underscores the importance of values-driven and context-sensitive approaches to AI integration in educational settings (Bantugan, 2026a; Bantugan et al., 2025a). Faculty development is likewise essential, as educators require both technical familiarity and pedagogical strategies to effectively guide AI-mediated learning. Research consistently shows that successful integration depends on teacher preparedness and institutional support (Zawacki-Richter et al., 2019; Bond et al., 2024).

Finally, **institutional governance** provides the structural foundation for reform. Policies must be flexible, principle-based, and sensitive to disciplinary contexts, ensuring transparency, accountability, and equitable access (Wang et al., 2024). Governance, therefore, plays a critical role in aligning innovation with human-centered educational values.

Integrative Model

Taken together, the framework conceptualizes art education reform in the AI era as a **dynamic and iterative process**. The changing ecology of AI reshapes creative practice and educational conditions, generating pedagogical, ethical, and epistemological tensions. These tensions, in turn, necessitate institutional responses that redefine curricula, assessment, literacy, and governance. Rather than viewing AI as either a threat or a solution, the framework positions it as a **catalyst for critical transformation**. Reform becomes educationally sound when it preserves the humanistic foundations of art education—creativity, criticality, and cultural understanding—while engaging constructively with the realities of machine-mediated production. In this sense, the framework directly addresses the central problem of the study by providing a structured way to understand **what is changing, what is at stake, and how institutions can respond in pedagogically and ethically grounded ways**.

Statement of the Problem

This paper addressed that question through a conceptual analysis of "art education reform in the AI era." Rather than presenting a single empirical case, it synthesized recent literature from AI in education, higher education

policy, creativity research, and emerging art-and-design scholarship to clarify what is changing, what is at stake, and what institutional pathways appear most educationally sound. The argument is that AI should be understood neither as a threat that invalidates art education nor as a neutral efficiency tool that can be inserted into existing curricula without deeper change. It should instead be approached as a disruptive medium that requires reform at the level of curriculum, assessment, ethics, teacher preparation, and governance.

The value of such an argument lies in its timing. Public debate often moves more quickly than institutional reflection. Universities have issued policies, students have incorporated image generators into coursework, and market discourse increasingly frames AI fluency as a creative workforce necessity. Yet educational reform cannot be reduced to compliance with technological trends. In art education, reform must ask how learning environments can preserve experimentation, embodied practice, critique, and cultural interpretation while also preparing students to work in increasingly AI-saturated creative industries. The goal is not to defend pre-AI art education unchanged, but to articulate an adaptive model that remains pedagogically rigorous and ethically responsible.

METHODOLOGY

Research Design: Conceptual and Integrative Literature Analysis

This study adopts a qualitative, conceptual research design grounded in integrative literature analysis. Rather than generating primary empirical data, it systematically synthesizes existing scholarship across multiple domains—art education, AI in education, higher education policy, and creativity research—to clarify emerging patterns, tensions, and trajectories. Conceptual analysis is particularly appropriate for examining rapidly evolving phenomena such as AI, where theoretical consolidation often precedes large-scale empirical validation (Jabareen, 2009). By drawing on diverse yet interrelated bodies of literature, the study aims to construct a coherent interpretive framework for understanding "art education reform in the AI era."

This approach aligns with the argument that educational transformation driven by technological disruption requires interdisciplinary synthesis rather than isolated empirical cases (Williamson et al., 2020). It also reflects the position that AI-related educational change must be understood as a socio-technical phenomenon embedded in institutional, cultural, and epistemological contexts.

Data Sources and Selection Criteria

To address the study's aim of clarifying **what is changing, what is at stake, and what institutional pathways are most educationally sound**, this research draws on a deliberately curated, interdisciplinary body of literature. Sources were selected to capture the evolving ecology of art education in the AI era, as well as the opportunities, risks, and reform directions identified in recent scholarship.

The dataset consists of peer-reviewed journal articles, policy documents, conceptual papers, and high-impact preprints (e.g., arXiv) published primarily between 2020 and 2026. This timeframe reflects the rapid development of generative AI and ensures that the analysis engages with current theoretical and institutional debates. In addition to conventional academic sources, international policy frameworks—particularly those addressing ethics, governance, and educational transformation—are included to contextualize institutional responses within global standards (UNESCO, 2021, 2023).

Sources were selected based on four primary inclusion criteria, each corresponding to a key dimension of the statement of the problem. First, literature on **technological transformation in education** was included to examine how generative AI reshapes knowledge production, pedagogy, and learning environments (Zawacki-Richter et al., 2019; Bond et al., 2024). Second, studies on **creativity, authorship, and artistic practice** were selected to understand how AI reconfigures core concepts in art and design education, including originality, process, and evaluation (Tsao et al., 2025; Habib et al., 2024). Third, research addressing **ethical, social, and epistemological risks**—such as bias, authorship ambiguity, and overreliance—was incorporated to identify what is at stake in AI-mediated learning environments (Hagendorff, 2024; Heaton et al., 2024). Fourth, literature on

institutional policy, governance, and reform strategies was included to map emerging pathways for educationally sound responses (Wang et al., 2024; Yusuf et al., 2024).

A central component of the dataset is the body of work by Bantugan and collaborators, which provides context-sensitive and policy-oriented perspectives on AI in education. These studies offer empirical and conceptual insights into educator adoption, ethical deliberation, and institutional governance (Bantugan et al., 2024; Bantugan et al., 2025a). Additional works on arts engagement and humanistic education (Bantugan, 2023; Bantugan et al., 2025b) were included to ensure that the analysis remains grounded in the broader cultural and civic purposes of art education. This integration is particularly important for interpreting reform not only as a technical adjustment but as a values-driven transformation.

The selection strategy is purposive rather than exhaustive, prioritizing conceptual relevance and analytical depth over comprehensive coverage. This approach is consistent with integrative and conceptual review methodologies, which aim to synthesize diverse forms of evidence to generate new interpretive frameworks (Jabareen, 2009; Snyder, 2019). By combining technological, pedagogical, ethical, and institutional perspectives, the dataset supports a multidimensional analysis of art education reform in the AI era.

Analytical Framework: Thematic Synthesis and Conceptual Mapping

The analysis employs thematic synthesis to identify recurring concepts and relationships across the literature. Initial coding focuses on key domains reflected in the statement of the problem: (1) technological transformation, (2) creativity and authorship, (3) pedagogical practices, and (4) institutional governance. Through iterative comparison, these domains are refined into higher-order themes that capture the evolving landscape of art education in the AI era.

Conceptual mapping is then used to examine how these themes intersect and inform one another. For instance, discussions of AI as a creative collaborator are linked to shifts in pedagogical emphasis toward critical judgment and curation (Cetinic & She, 2021; Zhang & Xu, 2025), while policy-oriented analyses highlight the need for governance frameworks that address ethical and societal implications (Bantugan, 2026a). This process enables the study to move beyond descriptive summary toward theoretical integration.

The methodological approach is informed by Jabareen's (2009) framework for conceptual research, which emphasizes the iterative identification, categorization, and integration of concepts to construct a coherent analytical model. It also reflects best practices in qualitative synthesis, where transparency and reflexivity are essential in interpreting diverse sources (Snyder, 2019).

Epistemological Positioning

The study is grounded in a constructivist epistemology, which views knowledge as socially constructed and context-dependent. From this perspective, AI is not treated as a neutral technological tool but as a socio-cultural artifact that reshapes educational practices and meanings. This orientation is particularly relevant in art education, where creativity, interpretation, and cultural context are central to learning.

Bantugan's work reinforces this epistemological stance by emphasizing the role of values, social responsibility, and institutional context in shaping AI integration (Bantugan, 2026a; Bantugan et al., 2025a). By adopting a constructivist lens, the study acknowledges that interpretations of AI in art education are contingent upon disciplinary traditions, cultural settings, and educational goals.

Limitations

As a conceptual study, this research does not provide empirical validation of its claims. Instead, its strength lies in theoretical synthesis and the identification of emerging directions for research and practice. The reliance on recent literature, including preprints, reflects the rapidly evolving nature of AI scholarship but may also introduce variability in the level of peer review.

Additionally, while the inclusion of Bantugan's work provides valuable contextual depth, it may also foreground perspectives rooted in specific institutional and cultural contexts. Future research may build on this study by incorporating comparative empirical analyses across different educational systems.

The chosen methodology directly supports the study's aim of clarifying what is changing, what is at stake, and what institutional pathways are most educationally sound in the context of art education reform. By synthesizing interdisciplinary literature, the study identifies key transformations in creativity, pedagogy, and governance while situating these changes within broader educational and societal frameworks.

This approach ensures that the analysis remains exploratory and integrative, consistent with the study's conceptual focus. It also provides a foundation for future empirical investigations and policy development, thereby contributing to a deeper understanding of art education in the AI era.

RESULTS

The Changing Ecology of Art Education in the AI Era: What Is Changing

Art education has historically evolved alongside media technologies. The introduction of photography, video, digital illustration, and networked platforms reshaped artistic practice, learning processes, and valued literacies. Generative AI continues this trajectory but introduces a more accelerated and destabilizing shift because it simulates aspects of the creative process itself. Rather than merely extending execution, it now participates in ideation, composition, variation, revision, and presentation. This expansion of capability distinguishes generative AI from earlier tools and explains the intensity of current educational debates.

In higher education, generative AI is widely understood as both a pedagogical resource and a governance challenge. Large-scale studies indicate widespread awareness and increasing adoption, accompanied by concerns about misuse, academic integrity, and the need for ethical frameworks (Yusuf et al., 2024; Wang et al., 2024). These tensions are particularly significant in art education, where questions of originality, attribution, and creative ownership are foundational.

Within creative disciplines, generative AI is reshaping the meaning of creativity itself. Tsao et al. (2025) describe a shift from direct production toward curation, evaluation, and "meta-creation," where students engage more in selecting and refining outputs than producing them from scratch. This transformation repositions artistic learning toward higher-order processes such as judgment and conceptual framing. However, it also risks narrowing educational experiences if rapid output is mistaken for deep learning.

A critical dimension of this changing ecology is the transformation of process visibility. Studio-based pedagogy has traditionally emphasized iterative development—sketches, drafts, critiques, and revisions—as evidence of learning. AI tools, by contrast, can obscure process by producing polished outputs with minimal visible effort. Without mechanisms for documenting prompts, revisions, and decision-making, educators may lose insight into how students think and learn. This shift underscores the need for pedagogical reform that re-centers process in AI-mediated environments.

Access and literacy further complicate this evolving landscape. While generative AI can lower technical barriers and expand participation, meaningful engagement increasingly depends on new competencies such as prompt design, critical evaluation, and bias recognition. As emphasized in global policy frameworks (UNESCO, 2023), access must be understood not only in terms of tools but also in terms of critical AI literacy. Bantugan et al. (2024) reinforce this perspective by showing that AI adoption is shaped by educators' contexts, beliefs, and institutional conditions, highlighting that technological change is inseparable from social and pedagogical structures.

Finally, AI is reshaping the identity and civic role of art education. Traditionally positioned as a space for experimentation and individual expression, art education now confronts systems optimized for stylistic imitation and rapid production. Bantugan (2026a) argues that such technological developments must be situated within broader ethical and governance frameworks to prevent the erosion of human-centered educational values. In this

sense, the changing ecology of art education is not only about adapting to AI, but about redefining the field's role in critically engaging with machine-mediated culture.

Opportunities for Art Education Reform: What Is Possible

The transformations introduced by AI also create significant opportunities for rethinking art education in more expansive and reflective ways.

First, AI can enhance exploratory learning by enabling rapid generation of multiple creative directions. Rather than replacing artistic thinking, this capability externalizes possibilities that can be critically evaluated. Research suggests that AI can support divergent thinking when used as a tool for exploration rather than substitution (Habib et al., 2024). In this context, learning shifts toward articulating and defending aesthetic and conceptual choices.

Second, AI facilitates multimodal and interdisciplinary learning. Contemporary art education increasingly intersects with fields such as design, media studies, and computational practice. Generative AI makes these intersections more visible by integrating text, image, and sound within unified workflows. Yang and Shin (2025) note that such developments are accelerating interdisciplinary integration, preparing students for hybrid creative industries. This aligns with Bantugan's broader view that educational innovation must be responsive to evolving technological and cultural contexts (Bantugan et al., 2025a).

Third, AI can support accessibility and differentiated learning. By lowering technical barriers, generative tools enable students with diverse backgrounds to participate more fully in creative processes. At the same time, research cautions that these benefits depend on thoughtful implementation and support structures (Zawacki-Richter et al., 2019; Bond et al., 2024). In art education, this suggests that inclusivity must be actively designed rather than assumed.

Fourth, AI can deepen critical and visual literacy. Generated images provide opportunities to examine bias, representation, and cultural assumptions embedded in datasets. Scholars emphasize that AI systems reflect and reproduce societal patterns, making them valuable objects of critique (Hagendorff, 2024). Art education, with its emphasis on visual interpretation, is uniquely positioned to engage students in analyzing these issues.

Fifth, AI enables new forms of process documentation and reflective practice. When students document prompts, iterations, and decisions, AI-assisted workflows can make thinking more visible rather than less. Such practices align with constructivist approaches to learning and support metacognitive development. Bantugan (2023) emphasizes the importance of reflective and human-centered learning processes, which can be extended into AI-mediated contexts.

Ultimately, AI creates an opportunity to clarify the purposes of art education. If the field prioritizes critical thinking, ethical awareness, and cultural interpretation, then AI becomes a catalyst for strengthening rather than undermining these goals.

Challenges and Risks: What Is at Stake

Despite these opportunities, the integration of AI presents substantial risks that directly affect the integrity of art education.

A primary concern is the erosion of originality as a meaningful concept. While artistic practice has always involved influence and transformation, generative AI complicates authorship by producing outputs derived from large datasets. Without critical instruction, students may conflate technical novelty with artistic originality, weakening conceptual rigor (Heaton et al., 2024).

A second risk is overreliance and potential deskilling. While AI can support idea generation, it may also reduce students' engagement with the iterative and uncertain aspects of creative work. Evidence suggests that excessive

reliance on AI can negatively affect creative confidence and independence (Habib et al., 2024). This tension highlights the importance of balancing efficiency with deep learning.

Ethical and legal concerns further complicate AI integration. Issues of copyright, consent, and attribution remain unresolved, as many systems are trained on data collected without explicit permission. Global frameworks emphasize the need for transparency, accountability, and fairness in AI use (UNESCO, 2021). Bantugan (2026a) similarly argues for governance approaches that address these systemic concerns, positioning educational institutions as key actors in ethical AI adoption.

Bias and representational harm constitute another major challenge. AI-generated images often reproduce stereotypes related to race, gender, and culture, shaping how students understand visual representation. Without critical engagement, such outputs risk reinforcing existing inequalities (Hagendorff, 2024).

Inequity also persists at the structural level. Access to tools, infrastructure, and training varies widely, potentially exacerbating educational disparities. Bantugan et al. (2024) highlight how institutional and contextual factors influence AI adoption, suggesting that equity must be addressed holistically.

Assessment practices are likewise destabilized. Traditional criteria such as originality, process, and technical skill become difficult to evaluate in AI-assisted work. This creates uncertainty about how learning should be measured and recognized.

Finally, there is a deeper philosophical concern regarding the nature of artistic learning. Art education has long emphasized embodied, material, and time-intensive practices. The acceleration enabled by AI risks marginalizing these dimensions, raising questions about what forms of knowledge and experience are valued.

Pathways for Reform: What Is Educationally Sound

To address these challenges, institutions must move toward a more integrated and sustainable model of reform. **Curriculum redesign** is the first essential step; programs should stop treating "traditional" and "digital" art as separate worlds and instead teach AI as both a creative tool and a subject for critical study (UNESCO, 2023). For example, a "Process-First" studio could require students to maintain "Prompt Journals" where they explain the specific intent and aesthetic goals behind their machine interactions. Second, **assessment reform** must shift the focus from the final image to the student's journey, including their documentation of decision-making and ethical reflections. Third, **AI literacy and ethics** must become core competencies so that students understand not just how to use a tool, but how the underlying data systems function and fail. Bantugan's work underscores that these approaches must remain sensitive to the local values and contexts of the learners (Bantugan, 2026a). Fourth, **faculty development** is critical because successful integration depends entirely on how prepared and supported teachers feel (Bond et al., 2024). Finally, **institutional governance** must provide flexible policies that protect students from the "black box" nature of corporate AI. By demanding transparency from tech providers, schools can ensure that student data is not exploited by hidden commercial interests (Pasquale, 2015). These pathways create a human-centered model where AI strengthens, rather than replaces, critical thinking and creative agency.

DISCUSSION

Toward a Human-Centered Model of AI in Art Education

The central implication of this analysis is that art education reform must be guided by a human-centered conception of AI. Such a model resists two unhelpful extremes: "technological rejectionism," which risks making formal education irrelevant by excluding tools students already encounter in professional and informal settings, and "technological solutionism," which treats AI as a magic fix for efficiency while ignoring how it can displace core educational values. In art education, solutionism can quickly reduce creative learning to fast prototyping and style generation, obscuring how datasets, platforms, and commercial incentives shape what kinds of images are most easily produced and rewarded. This lack of transparency reflects the "black box" nature of modern algorithmic systems, where the secret logic controlling information is shielded from public scrutiny (Pasquale,

2015). Consequently, the literature consistently warns that AI adoption must be accompanied by ethical rigor, context sensitivity, and constant evaluation.

A practical, human-centered model treats pedagogy as the primary frame for decision-making rather than the technology itself. In a real-world classroom setting, this means defining AI as a "medium for inquiry" rather than an authority over artistic outcomes. Students should be actively encouraged to test, question, modify, and even reject machine suggestions. To strengthen this approach, institutions should complement their conceptual frameworks with empirical validation, such as field research where students compare traditional, "hand-made" iterations with AI-generated ones to explain their creative choices. This model also insists on the visibility of the creative process; for instance, students might be required to keep "Prompt Journals" or records that make their human judgment and iterative decision-making legible. Furthermore, not every course requires the same level of AI integration, and some foundational experiences may be better served by limiting AI to protect embodied, material learning.

This human-centered model also helps clarify the ongoing debate regarding whether AI diminishes or expands creativity. Creativity is not a single trait but a complex mix of ideation, persistence, taste, and the ability to produce meaning under constraints. While AI may expand some of these areas, it can weaken others, such as creative confidence or independent thinking. The task for educators is to build environments—or "pedagogical sandboxes"—where students learn to notice these differences and engage with AI as a collaborator rather than a replacement. By using these tools to examine bias, labor, environmental costs, and cultural appropriation, art education connects creative practice to broader social responsibility.

Ultimately, art education reform is about more than just preparing students for the workforce; it is about strengthening "visual criticality" in a culture where synthetic media are becoming ordinary. As generated images increasingly circulate in politics and advertising, society needs citizens who can critically interpret how these images are made, whose assumptions they encode, and what realities they normalize. By moving toward an adaptive model that remains anchored in humanistic and civic-oriented goals, art education will not be peripheral to the AI age but will instead be the place where the meanings of that age are most thoughtfully examined.

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