From Technical Skill to Creative Agency: Reframing Digital Media Art Education in Vocational Higher Education Under Generative AI

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DOI: https://doi.org/10.47772/IJRISS.2026.100300387

Received: 25 March 2026; Accepted: 31 March 2026; Published: 10 April 2026

ABSTRACT

This conceptual paper examined the transformative challenges and opportunities posed by generative artificial intelligence (AI) in vocational digital media art programs. It first reviewed the evolving relationship between AI and higher education, highlighting the pressures on curricula traditionally centered on technical skill mastery. The paper critiqued the limitations of a skills-only approach and proposes a pedagogical reframing that foregrounds human agency, purposeful revision, and ethical decision-making. Using a conceptual-argumentative methodology, the study synthesized literature on AI adoption, arts pedagogy, and institutional governance to construct a multilevel framework for vocational reform. The framework identified six interconnected layers for curriculum redesign: learning outcomes, module structure, pedagogy, industry linkage, program scaffolding, and teacher development. These layers collectively emphasize student capacity to direct human–AI workflows, document creative decisions, and maintain professional and ethical integrity. Assessment strategies were reconceptualized to prioritize process evidence over product output, incorporating prompt logs, rationale statements, and revision histories to make creative agency observable. The framework also advanced a model of relational authorship, where students act as "directors" of final outputs while AI functions as an assistive partner, shifting evaluation away from binary notions of human versus machine creation. By situating AI within a systemic, institution-wide approach rather than isolated classroom exercises, the study offers practical guidance for curricular design, faculty development, and policy formulation, ensuring that vocational programs remain relevant, ethically grounded, and responsive to the generative AI era.

Keywords: vocational digital media, generative AI, curriculum reform, creative agency, relational authorship

INTRODUCTION

Generative artificial intelligence (AI) has rapidly transitioned from an experimental curiosity to an ordinary component of creative production within the workflows of design, media, and visual communication. For vocational higher education—specifically digital media art—this acceleration is uniquely consequential, as these programs are traditionally anchored in a curriculum logic of technical competence, focusing on software mastery and production procedures. However, as AI adoption in higher education expands faster than pedagogical and ethical frameworks, the conditions under which technical proficiency alone can secure educational or professional value have been fundamentally altered. Recent scholarship, including work by Zawacki-Richter et al. (2019) and Bond et al. (2024), warns that organizational and ethical questions remain unresolved even as implementation scales. In the specific context of art and design pedagogy, this gap manifests as a profound dualism; educators report simultaneous fascination and anxiety regarding the erosion of disciplinary habits, the homogenization of style, and the disruption of traditional notions of authorship (Heaton et al., 2024; Sáez-Velasco, 2024).

This article developed a conceptual argument through a critical synthesis of scholarship on AI in higher education, generative AI in art and design education, and vocational learning. It posits that the central challenge for vocational institutions is not merely the integration of these tools, but a fundamental reinterpretation of the purpose of learning in an era of automation. If curricula remain tethered to reproducing standard workflows,

students risk being trained for roles that are rapidly being reorganized or replaced. Conversely, by reframing vocational education around creative agency—defined here as the student's ability to define intentions, orchestrate tools, and make aesthetic or ethical judgments—institutions can remain both relevant and distinctive. Under the conditions of generative AI, such agency becomes more important, not less, as it shifts the focus from mere output to meaningful process and professional context.

AI, Art Education, and Vocational Higher Education: A Changing Landscape

The current landscape of Higher Education (HE) is defined by a significant structural tension: AI adoption is expanding at a velocity that far outpaces the development of robust pedagogical and ethical frameworks. Systematic reviews confirm that AI is no longer a marginal research interest but a central governance and curricular challenge. While Zawacki-Richter et al. (2019) mapped AI applications across prediction and assessment, they noted a concerning lack of educator involvement in shaping these tools. Bond et al. (2024) further emphasize that this rapid implementation demands stronger ethical collaboration and methodological rigor. For vocational institutions, this tension is particularly acute; they operate under intense pressure to align with labor market shifts—often with fewer resources for the long-term pedagogical experimentation required to integrate such volatile technology safely.

The arrival of Generative AI (GenAI) intensifies this challenge by shifting the focus from background analytics to the center of content creation. In digital media art, the core object of learning—the creation of the artifact—is being fundamentally transformed as systems produce scripts, images, and code in seconds. This shift necessitates a move toward the human-centric oversight and ethical reflection advocated by UNESCO (2021, 2023). Recent scholarship in art and design education reflects this "dual response" of excitement and anxiety. Sáez-Velasco (2024) highlights that both students and educators perceive GenAI as simultaneously enabling and disruptive, while Heaton et al. (2024) and Kicklighter et al. (2024) argue for a pedagogy that treats AI as a "generative partner" rather than a mere automation tool.

However, this transformation also exposes a deeper issue: the misalignment between rapidly evolving technologies and the institutional systems that support meaningful learning. Bantugan et al. (2025) argue that educational innovation must be understood as a systemic process, not merely a technological intervention, emphasizing the need for coherent structures that connect pedagogy, governance, and community engagement. This systems perspective is reinforced in Bantugan et al. (2025) on research knowledge management, which highlights that fragmented institutional processes undermine the effectiveness of innovation by preventing the integration of knowledge, practice, and policy . Similarly, Bantugan (2026) underscores that AI adoption must be guided by democratized and multisectoral governance frameworks, warning that uncritical implementation risks reinforcing centralized technological control rather than institutional empowerment .

In the vocational context, "workplace relevance" cannot be reduced to mechanical skill. The challenge for higher vocational settings is providing the structured, practice-linked pedagogy that students demand (Metreveli et al., 2025) while maintaining the industry-aligned relevance found in collaborative models (Sun et al., 2025). Consequently, the landscape facing vocational digital media art is not just one of new tools, but a convergence of shifting industrial workflows and unstable norms of authorship. Under these conditions, a narrow "technical mastery" model is increasingly fragile. What is required is a durable educational orientation that recognizes technical skill as necessary but insufficient, pointing instead toward a framework of creative agency that integrates production with judgment and intentionality.

This orientation aligns with Bantugan's broader body of work on integral human development, which situates artistic and educational practice within networks of participation, cultural meaning, and social responsibility (Bantugan, 2023). His findings demonstrate that creative outputs gain significance when embedded in relational and value-driven contexts, rather than treated as isolated technical artifacts . In this sense, vocational education must move toward a model where creativity is not only executed but situated, interpreted, and socially engaged.

The Limits of a Technical-Skills Curriculum under Generative AI

Technical training has long been the backbone of vocational digital media art, operating under a "logic of scarcity" where software expertise was a difficult-to-acquire, marketable asset. This model favored procedural demonstration and competency checklists. However, GenAI destabilizes this logic by compressing technical execution. When AI can complete manual tasks—such as draft illustration or basic scripting—instantly, the value of expertise shifts from execution to definition. A curriculum organized solely around software operation risks training students to perform slowly what machines now do quickly, failing to address the new professional requirement: the ability to evaluate, refine, and integrate AI outputs within a broader creative purpose.

Furthermore, a technical-skills-only approach often treats tools as neutral, an assumption that GenAI renders untenable. AI-generated content introduces complex layers of bias, copyright ambiguity, and labor displacement. If vocational students are trained only for efficient output, they remain ill-equipped to navigate the ethical and cultural implications of their work. As UNESCO (2021) suggests, these concerns are not external "add-ons" but are central to how creative labor is valued.

This critique is reinforced by Bantugan and Valeriano (2019), who show that meaningful student formation emerges from participatory, service-oriented, and reflective engagements, rather than purely task-based competencies . Similarly, Bantugan et al. (2025) demonstrate that student engagement in artistic and cultural activities is shaped by institutional communication systems and community structures, not just individual skill levels . These findings suggest that a purely technical curriculum overlooks the processes through which learning becomes meaningful, ethical, and socially grounded.

Finally, a focus on technical routine undermines student resilience and authorship. In an environment where software and platform norms change rapidly, fixed workflows provide little protection against disruption. O'Dea (2024) argues that GenAI represents a paradigm shift for HE where educational value must be relocated to process, critique, and iteration. Vocational programs must therefore redefine professional readiness.

This expanded conception of capability is consistent with Bantugan's interpretivist and constructivist analysis of higher education policy, which emphasizes critical thinking, interdisciplinarity, and ethical alignment as core outcomes of graduate education (Bantugan et al., 2025) . It also aligns with his work on social integration and participatory learning, where knowledge is constructed through interaction, reflection, and engagement with real-world contexts (Bantugan et al., 2018) .

In this sense, the challenge of GenAI is not merely curricular but philosophical: it requires a redefinition of what it means to create, to learn, and to contribute meaningfully in a technologically augmented creative economy. A Bantugan-informed perspective suggests that this redefinition must be grounded in integrated systems, ethical governance, and community-oriented creativity, ensuring that AI enhances—not diminishes—the human dimensions of vocational education.

From Technical Skill to Creative Agency: A Conceptual Reframing

Creative agency provides a robust organizing principle for curricular reform because it acknowledges the realities of automation without surrendering the educational core of creative practice. In this synthesis, creative agency is not understood as romantic self-expression detached from industry; rather, it refers to the ability to act intentionally and responsibly within a technologically mediated environment. As AI adoption in higher education expands faster than our ethical frameworks, this agency becomes the primary filter through which students navigate the "simultaneous excitement and uncertainty" of the field. It encompasses six interrelated dimensions:

Problem Framing. The ability to define what is worth making and for whom. While generative AI produces abundant outputs, it cannot define a communication objective or a narrative intention. Without this capacity, AI use remains reactive and shallow.

Aesthetic Judgment. The cultivated eye and ear required to select, compare, and revise outputs. In an era of

automated scale, judgment is the mechanism that converts high-volume variation into high-quality professional work.

Tool Orchestration. The coordination of AI systems, conventional software, and analog research within a coherent workflow. In vocational contexts, AI is not a "magic replacement" but one component of a broader production ecology.

Process Reflection. The capacity to track iterations and explain decision-making. This dimension is central to assessment, as it makes the student's specific contribution visible in AI-assisted work, addressing the anxieties surrounding originality and authorship.

Ethical Responsibility. Integrating transparency, bias awareness, and copyright sensitivity. Fleischmann (2025) warns that design curricula must avoid commodifying creativity or reducing it to mere speed and volume. If vocational programs celebrate efficiency while neglecting disclosure and fairness, they risk producing a professional identity that is unsustainable in the long term.

Contextual Communication. The ability to justify and adapt work for clients and communities. In a labor market shaped by AI, students distinguish themselves not by producing the first draft, but by articulating the strategic value of their creative decisions.

This reframing fundamentally shifts the definition of vocational excellence. Under the traditional technical-skills paradigm, excellence was measured by precision and faithful execution. Under a creative-agency paradigm, excellence extends to purposeful originality and informed decision-making under uncertainty. This is not a "softer" standard; it is a more demanding one that requires students to think, document, and justify their process rather than merely submitting a polished result.

Crucially, creative agency does not position human creativity and AI in a zero-sum opposition. Creative work has always involved tools, references, and mediation; generative AI simply changes the speed and opacity of that mediation. Education must therefore transition students from being passive consumers of machine outputs to being informed "directors" of algorithmic processes. As Lee et al. (2024) observe, educators perceive generative AI as both transformative and disruptive. The pedagogical response, therefore, cannot be limited to simple prohibition or unrestricted adoption. It must cultivate the specific human capacities—judgment, intentionality, and responsibility—through which students can use AI critically and accountably.

Statement of the Problem

The paper first reviewed the shifting relationship between AI and higher education frameworks and examining the distinct pressures facing vocational digital media art programs. It then offered a critique of the limitations inherent in a technical-skills-only curriculum model before proposing a pedagogical reframing centered on human agency and purposeful revision. Finally, the discussion explored the implications for assessment, teacher development, and institutional policy. By synthesizing these diverse scholarly threads, the article provides a practical theoretical framework for redesigning vocational programs to meet the complex demands of the generative AI era.

METHODOLOGY

The methodology used a **conceptual-argumentative approach**. It functions by identifying the friction between the rapid expansion of AI (as noted by Zawacki-Richter and Bond) and the specific needs of vocational arts education. By synthesizing these perspectives, the methodology produces a "multilevel framework" for reform.

The study drew from a critical synthesis that maps the broad ethical and pedagogical warnings in higher education onto the specific "excitement and anxiety" of the arts studio. This methodology identified that for reform to be effective, it must move beyond the classroom to address the entire **institutional architecture** of vocational learning.

Curricular Levels of Reform

The synthesis of recent work on AI adoption suggests that reform must be systemic. The methodology identifies six critical layers where the "pedagogical gap" can be closed:

Learning Outcomes. Shifting from "mastery of software" to "direction of human–AI workflows." The methodology here aligns with **UNESCO's (2021)** call for human oversight, transforming "making" into "framing and justifying."

Module Structure. Breaking the binary between technical and conceptual instruction. By integrating AI experimentation early, the curriculum makes **judgment visible**, solving the problem of AI being treated as an "abstract novelty" (**Metreveli et al., 2025**).

Pedagogy. Moving from demonstration-led teaching to **dialogic studio practice**. This aligns with **Heaton et al. (2024)**, where AI is a "generative partner" requiring students to defend their choices through process journals and critique.

Industry Linkage. Utilizing **Sun et al.'s (2025)** model of teacher-industry collaboration to ensure that "vocational excellence" reflects actual workplace redesigns, including workflow accountability and IP risk.

Program Scaffolding. Implementing a developmental sequence that moves from media literacy to complex client scenarios. This addresses the "uneven preparation" of vocational learners.

Teacher Development. Addressing the faculty "self-efficacy" gap identified by **Mah and Ifenthaler (2024)**. The methodology proposes "communities of practice" to move beyond one-off technical workshops toward deep pedagogical redesign.

Rethinking Assessment and Authorship

The synthesis highlighted that the most "acute tension" for arts educators involves **originality and assessment**. The methodology addressed this by proposing a shift in the **epistemic focus** of evaluation:

From Product to Process. Because GenAI collapses the effort required for a "polished artifact," assessment must shift to **process evidence** (prompt logs, rationale statements, version histories). This makes "creative agency" observable.

Disclosure as Vocational Prep. Aligning with **Miao & Holmes (2023)**, transparency was treated not as a policing mechanism, but as a professional skill (provenance and licensing risk).

Recalibrating Criteria. Rubrics were redesigned to reward **quality of curation** and **ethical awareness** rather than just technical finish.

Relational Authorship. The methodology moved away from the "fully human vs. AI-made" binary. Instead, it teaches **layered authorship**, where the student is the "director" who retains responsibility for the final communication, even when execution is delegated to a machine.

By synthesizing scholarship on HE governance, arts pedagogy, and vocational needs, these results argue that the "technical-skills model" is no longer durable. The methodology concludes that **creative agency**—manifested through retained direction and documented process—is the only framework capable of maintaining educational value in the generative AI era.

Pathways for Curriculum Reform in Vocational Digital Media Art Programmes

If creative agency is to serve as a practical curricular principle, reform must move beyond isolated classroom experiments toward a multi-level institutional framework. This systemic approach addresses the tension between

rapid technology adoption and lagging educational structures through six distinct levels of reform:

Learning Outcomes. Traditional outcomes focusing on technical mastery must be expanded. Revised outcomes should evaluate a student's ability to direct human–AI workflows, document decision-making, and exercise ethical data awareness. Assessment must pivot from whether students can *make* to whether they can frame, justify, and improve.

Module Structure. The generative AI context renders the separation of technical and conceptual instruction ineffective. Curricula should integrate structured AI experimentation alongside manual methods from the start, using comparative pedagogy—analyzing AI-assisted versus non-AI workflows—to make the student's judgment visible.

Pedagogy. Drawing on Heaton et al. (2024), AI should prompt transformative reflection rather than simple tool substitution. Vocational teaching must shift from demonstration-led reproduction toward studio dialogue, process journals, and revision cycles where students must actively defend their creative choices.

Authentic Industry Linkage. Aligning with Sun et al. (2025), collaboration with industry must move beyond software trends to address workflow redesign, intellectual property risk, and the changing division of labor. This ensures vocational programs avoid both technical obsolescence and uncritical adoption.

Programme Scaffolding. Recognizing that learners require structured support (Metreveli et al., 2025), programs should follow a developmental sequence: beginning with media literacy and ethics, moving to AI-assisted briefs, and culminating in advanced negotiations of client constraints and disclosure.

Teacher Development. To overcome the self-efficacy gaps identified by Mah and Ifenthaler (2024), professional development must move beyond technical workshops toward communities of practice. These allow educators to collectively navigate the "complex burden" of preserving disciplinary depth while interpreting technological change.

Rethinking Assessment, Authorship, and Evidence of Learning

Assessment is the most urgent pressure point in the transition to generative AI. In digital media art, the traditional focus on the "finished artifact" has become an unreliable indicator of learning. To address this epistemic challenge, vocational programs must transition from output-based evaluation to a model centered on retained direction.

From Product to Process Evidence. A robust assessment model must combine product evaluation with process evidence, such as prompt logs, draft comparisons, and rationale statements. This reorients assessment toward learning as a sequence of decisions, making the student's creative agency observable even when technical execution is delegated to an algorithm.

Professional Disclosure and Ethical Integrity. In line with UNESCO (2021) and Miao & Holmes (2023), disclosure should be framed as professional integrity rather than a policing mechanism. By teaching students to specify which components were generated and how human decisions shaped the final work, institutions prepare them for industry demands regarding provenance and licensing risk.

Recalibrating Authorship. Generative AI necessitates a shift toward layered authorship. Rather than binary labels (human vs. AI), educators should evaluate who framed the problem, curated the outputs, and revised the material. This distinction between *delegated execution* and *retained direction* allows teachers to move away from surveillance-based responses. In this framework, authorship is recognized as relational and documented; the student remains the "director," and their ability to justify choices becomes the primary evidence of substantive learning.

DISCUSSION

Equity, Professional Identity, and the Ethical Future of Vocational Art Education

While AI is often framed through the lens of innovation, a critical synthesis of current scholarship reveals that its expansion in higher education often bypasses essential questions of equity and identity. Access to high-quality generative tools is inherently uneven, dictated by device quality, subscription affordability, and even English-language fluency for effective prompting. If vocational programs implement AI without robust support frameworks, they risk deepening existing inequalities. Equity, in this context, is not merely about tool access; it is about **pedagogical benefit**. Students with weaker technical foundations may become over-dependent on AI shortcuts, while advantaged students use AI as an "amplifier" for existing conceptual strengths. Institutions must therefore move toward inclusive strategies—shared lab access and open-source alternatives—that prevent paid platforms from becoming a prerequisite for success.

The expansion of AI also complicates the formation of **professional identity**. Vocational students often face a dualistic pressure: fearing their hard-won technical skills are becoming obsolete while simultaneously being enticed by the efficiency of automation. As this article argues, education must resolve this tension by relocating professional identity within **direction and discernment** rather than mere execution. Technical craft remains vital, but its value now lies in how it enables the student to exercise stronger judgment over AI-generated material.

Furthermore, the ethical future of the field requires students to confront the structural biases inherent in large-scale datasets. Because generative systems are trained on histories with uneven inclusion, biased outputs are a structural reality. Part of vocational competence now involves the ability to recognize, critique, and correct these narratives—a critical skill for those entering influential fields like advertising and media branding. By resisting the "commodification of creativity" (**Fleischmann, 2025**), vocational programs can ensure that employability is not reduced to a narrow market logic of speed, but is instead grounded in **responsible creative practice**.

CONCLUSION

Generative AI represents a fundamental turning point for vocational digital media art education. This article has argued that the central challenge is not the technical integration of new tools, but a foundational reinterpretation of the purpose of learning. If programs continue to define success through technical execution alone, they risk preparing students for a shrinking share of creative labor. However, by reframing the curriculum around **creative agency**, institutions can offer a more durable and meaningful professional future.

Through a critical synthesis of scholarship on AI in higher education, arts pedagogy, and vocational learning, this study proposes that creative agency provides the most productive basis for reform. This framework—comprising problem framing, aesthetic judgment, tool orchestration, process reflection, and ethical responsibility—does not reject vocational priorities like employability; rather, it responds to them more realistically. In a landscape where AI adoption is outpacing ethical frameworks, human value is increasingly concentrated in the ability to direct workflows, evaluate outputs, and take responsibility for creative consequences.

The pathways for reform outlined here—from revising learning outcomes to rethinking assessment through process evidence—move digital media art education away from a fragile technical-skills model toward an adaptive, ethically grounded vision. In the generative AI era, vocational education must be judged not just by its speed in adopting new tools, but by its direction. Reframing the curriculum from technical skill to creative agency is more than a rhetorical shift; it is a strategic necessity to ensure that students remain capable, critical, and responsible practitioners in an unstable media environment.

The following recommendations are proposed to enhance the practical utility and structural depth of the creative-agency framework:

1. **Integrate Illustrative Case Studies and Pilot Examples:** Incorporate real-world case studies or examples of pilot curricula that demonstrate the creative-agency framework in action within authentic vocational settings. These examples should highlight the transition from theoretical concepts to practical classroom or studio applications.

2. **Develop Practical Implementation Toolkits:** Enhance the clarity and transferability of the framework by including sample assessment rubrics, annotated student artifacts, and detailed workflow diagrams. These visual and evaluative tools will provide educators with tangible resources for immediate adoption.

3. **Address Disciplinary Variations and Adaptation Strategies:** Explicitly acknowledge the diverse sub-disciplines within digital media art (e.g., animation, graphic design, web development) and outline specific strategies for adapting the framework to meet the unique technical and creative requirements of each field.

4. **Analyze Implementation Challenges and Institutional Constraints:** Provide a balanced and actionable roadmap by discussing potential barriers to implementation, such as faculty workload, resource allocation, and institutional policy constraints.

5. **Strengthen Methodological Visualization:** Use visual models to map the "creative-agency" process, showing the iterative relationship between student autonomy, technical skill acquisition, and professional output within a vocational context.

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