Scientific Research Publishing

Open Journal of Social Sciences, 2026, 14(1), 24-32
https://www.scirp.org/journal/jss
ISSN Online: 2327-5960
ISSN Print: 2327-5952

A Theoretical Inquiry into the Integration of Artificial Intelligence in Beauty Education: Current Logic and Future Directions

Jia Wen[1], Hyekyun Kim[2*]

[1]School of International Art Exchange, Shandong University of Arts, Jinan, China
[2]Department of Beauty Design Management, Health and Welfare School, Woosong University, Daejeon, South Korea
Email: wenjia850720@gmail.com, *hyekim602@gmail.com

How to cite this paper: Wen, J., & Kim, H. (2026). A Theoretical Inquiry into the Integration of Artificial Intelligence in Beauty Education: Current Logic and Future Directions. *Open Journal of Social Sciences, 14,* 24-32.
https://doi.org/10.4236/jss.2026.141004

Received: December 2, 2025
Accepted: December 28, 2025
Published: December 31, 2025

Abstract

This paper presents a theoretical analysis of the current state and potential trajectories for integrating Artificial Intelligence (AI) into higher beauty education. Through a synthesis of existing literature, policy documents, and educational theory, it examines the conceptual foundations, prevailing logics, and inherent tensions within this emerging interdisciplinary field. The analysis reveals a significant discrepancy between the discourse surrounding technological advancement and its systemic implementation in formal beauty education curricula. While external drivers such as industry digitalization, generative AI tools, and evolving learner profiles advocate for integration, internal curricular structures remain largely anchored in traditional pedagogies. A critical logic gap is identified between the potential of AI as a creative enabler for "beauty creators" and its actual application within educational frameworks. The paper concludes by proposing a conceptual roadmap for bridging this gap, emphasizing the need for pedagogical reconceptualization, competency-based curriculum redesign, educator role transformation, and the establishment of ethical and philosophical guidelines. This theoretical exploration aims to clarify the foundational debates and provide a structured logic for future practical developments in AI-integrated beauty education.

Keywords

AI in Education, Beauty Education, Educational Theory, Curriculum Design, Digital Transformation, Generative AI

1. Introduction

The convergence of technological innovation and educational practice presents a

complex theoretical landscape. In the specific domain of beauty education—a field historically rooted in embodied skills, aesthetic tradition, and service-oriented practice—the rapid ascendance of Artificial Intelligence (AI) poses fundamental questions about the nature of expertise, creativity, and pedagogy (Baek, 2019; Choi, 2022). This paper engages not in empirical measurement, but in a theoretical inquiry: what are the prevailing logics guiding the dialogue on AI integration in beauty education, and to what extent do these logics form a coherent basis for curricular transformation?

Discourse around AI in education broadly is propelled by narratives of the Fourth Industrial Revolution, which frame technological adaptation as an economic and social imperative (Kang, 2019). Concurrently, the beauty industry is undergoing its own digital metamorphosis, marked by the rise of the "beauty creator"—a professional whose competence spans traditional artistry, digital content production, and platform-based audience engagement (Lee, 2022). Generative AI technologies, particularly in visual and audio media production (Anantrasirichai & Bull, 2022; Leiker et al., 2023), appear to offer a powerful toolkit for this new professional archetype, theoretically bridging technical skill with creative amplification.

However, a critical examination of the current state reveals a theoretical and practical schism. While policy proclamations (e.g., national AI education strategies) and industry trends signal a need for integration, the formal curricula of higher beauty education institutions demonstrate a persistent adherence to conventional models (Heo & Lee, 2022; Kim & Kim, 2025). This discrepancy suggests that the external logic of necessity (driven by technology and market forces) has not yet been successfully translated into an internal logic of educational design. This paper aims to theorize this gap. Its significance lies in moving beyond descriptive accounts of "AI in beauty" to analyze the underlying conceptual frameworks that enable or constrain meaningful integration, thereby providing a clearer philosophical and pedagogical basis for future innovation.

2. Theoretical Framework and Analytical Logic

This analysis proceeds through a structured, theoretical lens, synthesizing concepts from three intersecting domains:

2.1. The Logic of Disruption in Professional Education

The theory of disruptive innovation (Christensen et al., 2008) provides a useful, albeit contested, lens. AI, particularly generative AI, can be viewed as a disruptive force that does not merely improve existing pedagogical methods (e.g., more efficient demonstration of a haircut) but potentially redefines the core competencies of the field (e.g., from executing a haircut to designing and communicating personalized hair aesthetics via digital media). The theoretical challenge lies in whether educational institutions, often bound by accreditation standards and traditional epistemologies, are structured to accommodate such a redefinition.

2.2. Technological Pedagogical Content Knowledge (TPACK) in a New Context

Mishra and Koehler's (2006) TPACK framework posits that effective technology integration requires an interplay of Technological, Pedagogical, and Content Knowledge. Applying this to beauty education raises theoretical questions: What constitutes the "T" when AI is not just a tool (like a new type of curling iron) but a collaborative agent capable of generating content? How must pedagogical knowledge (PK) evolve to guide learners in critiquing, directing, and ethically collaborating with AI? The framework helps expose the insufficiency of simply adding "AI skills" to an existing curriculum; it demands a reconceptualization of all three knowledge domains.

2.3. The Philosophy of Creativity in Human-AI Collaboration

A core theoretical tension centers on creativity. Traditional beauty education valorizes human craftsmanship and intuitive artistic judgment. The advent of AI image generators, style-transfer algorithms, and predictive trend analysis challenges this paradigm, introducing a logic of co-creativity or augmented creativity (Runway Research, 2023; Wei et al., 2025). Theorizing this relationship is crucial: Is AI a mere tool executing human intent, or is it a partner in a dialogic creative process? The answer to this philosophical question directly informs educational objectives—should students learn to command AI or to collaborate with it?

By applying these interconnected theoretical lenses, this analysis will deconstruct the current state of discourse, identify logical inconsistencies, and propose a more coherent conceptual pathway forward.

3. Analysis: Deconstructing the Current Logics of Integration

3.1. The External "Push" Logic: Industry, Technology, and Policy

The dominant external logic is one of adaptive necessity. Industry reports and scholarly analyses consistently argue that the beauty sector's digital transformation—through e-commerce, social media marketing, virtual try-ons, and data-driven product development—creates an unassailable demand for digitally fluent graduates (Baek, 2019; Garg & Bakshi, 2024). This logic is amplified by the breathtaking capabilities of generative AI for visual storytelling, which seemingly provide the perfect technical substrate for the "beauty creator" economy (Kim & Ahn, 2025). Furthermore, national educational policies promoting AI and digital literacy establish a top-down imperative (Kim et al., 2022).

For example, China's Action Plan for Artificial Intelligence Education in Higher Institutions (2023-2030) positions AI literacy and interdisciplinary integration as key objectives for higher education, mandating that universities embed AI competencies across all majors (Ministry of Education of the People's Republic of China, 2023). Likewise, the United Kingdom's National AI Strategy: 2023 Progress Report highlights higher education partnerships and creative industry training as vital pathways for expanding national AI talent pipelines (Department for Science,

Innovation and Technology, 2023). These contemporary policy initiatives vividly illustrate the external "push" dynamic that frames AI integration as an institutional necessity.

The theoretical strength of this logic is its alignment with macroeconomic and technological trends. Its weakness is its instrumentalism; it often frames education as a reactive supplier of skills to the labor market, potentially neglecting broader educational aims of critical thinking, ethical reasoning, and personal aesthetic development.

3.2. The Internal "Pull" (or Resistance) Logic: Curricular Inertia and Epistemic Tradition

In contrast, the internal logic of established beauty education programs is often one of incremental preservation. Curricula are typically organized around mastering a canon of practical techniques (haircutting, color application, skincare protocols) and foundational scientific knowledge (trichology, dermatology). The underlying epistemology privileges hands-on, sensorial, and tacit knowledge acquisition (Kim & Park, 2023). From this perspective, AI integration faces significant theoretical hurdles: 1) It may be perceived as devaluing the embodied skill that is the field's historical core. 2) It introduces a form of "knowledge" (algorithmic, data-driven) that is alien to the field's traditional epistemic foundations. 3) It necessitates faculty expertise that falls outside the standard profile of a beauty educator, creating a legitimacy and competency gap (Jung & Lee, 2024). The observed scarcity of systemic AI courses (Kim & Kim, 2025) is thus a logical outcome of this internal paradigm, which prioritizes fidelity to traditional content and pedagogy over disruptive innovation.

3.3. The Emergent "Hybrid" Logic: The Beauty Creator as a Conceptual Bridge

A nascent third logic seeks to bridge this gap by redefining the graduate's professional identity. The "beauty creator" is not merely a technician but a creative director, digital communicator, and brand strategist (Moon & Kim, 2024; Lee, 2022). The "beauty creator" is a hybrid professional who integrates aesthetic craftsmanship, digital media literacy, and strategic communication to produce and share beauty experiences across physical and virtual spaces, reflecting the rise of aesthetic literacy and digital entrepreneurship in contemporary media cultures (Pan & Lee, 2024; Pugalendhi, 2025). This conceptual shift is pivotal. It allows AI tools to be theorized not as replacements for manual skill, but as amplifiers for higher-order competencies: narrative development (via Text-to-Video), audience analysis (via data analytics), and personalized aesthetic design (via generative algorithms). This logic holds the most promise for coherent integration, as it recenters the curriculum on a new synthesis of content knowledge (aesthetics, beauty science), pedagogical strategy (project-based, collaborative learning), and technological application (AI as a creative partner). However, its theoretical development remains incomplete, often lacking detailed frameworks for how traditional and

new competencies are to be sequenced, weighted, and assessed within a unified program.

4. Toward a Coherent Theoretical Framework for Integration

Based on the preceding analysis, a coherent theoretical framework for AI integration must actively resolve the tensions between the external push and internal pull. This framework is built on four interconnected pillars:

4.1. Pedagogical Reconceptualization: From Skill Transmission to Creative Curation

The core pedagogical logic must shift from a model of skill transmission to one of creative curation and direction. In this model, foundational manual and scientific knowledge remains essential but is repositioned as the critical foundation for informed creative judgment. This pedagogical reorientation also reframes the human–AI relationship introduced earlier: rather than treating AI as a mere tool that replicates human skill, it must now be understood as a creative partner that co-curates ideas, aesthetics, and processes with learners. The educator's role evolves from master demonstrator to a facilitator of "critique and prompt engineering"—guiding students in evaluating AI-generated outputs, iterating on creative briefs, and synthesizing algorithmic suggestions with human aesthetic sensibility (Wei et al., 2025). This aligns with and extends the TPACK framework, demanding new forms of pedagogical knowledge focused on mediating human-AI collaborative learning.

4.2. A Competency-Based Curricular Architecture

A logically consistent curriculum should be organized not around tools (e.g., "AI for Makeup"), but around hybrid competencies. Examples include:

- Augmented Aesthetic Design: Combining principles of color theory and facial anatomy with the use of generative AI for style exploration and virtual prototyping.
- Digital Narrative Intelligence: Merging storytelling and brand-building concepts with skills in AI-driven video, audio, and multi-platform content creation.
- Ethical-Tech Stewardship in Beauty: Integrating professional ethics with critical understanding of AI biases (e.g., in skin tone analysis), data privacy, and intellectual property in AI-assisted creation (Kim, 2024; Jeon, 2022).

This architecture logically sequences learning from "AI-aware" (understanding its role in the industry) to "AI-literate" (critically evaluating its outputs) to "AI-collaborative" (proficiently co-creating with it).

To ensure that these hybrid competencies are effectively cultivated, assessment methods must also evolve. Traditional examinations often fail to capture the integrated and process-oriented nature of AI-mediated creativity. Portfolio-based and

project-driven evaluations can offer more authentic and holistic measures of students' ability to synthesize technical, aesthetic, and ethical dimensions in learning.

4.3. Redefinition of Educator Expertise and Role

Theoretical clarity is needed on the evolving role of the educator. They must be theorized as "bilingual" professionals, fluent in both the language of traditional beauty practice and the language of digital creativity. Their expertise lies not in being the foremost AI technician, but in designing learning experiences where technology serves defined pedagogical and creative ends (Jo & Oh, 2024). Recent Korean research also highlights the institutional dimension of this transformation. Lee, Ha, and Cha (2024) demonstrate that AI-based customized teaching and learning requires universities to provide systematic faculty support—such as diagnostic analytics training, interdisciplinary development programs, and AI teaching-learning centers—to strengthen educators' dual expertise in both technology and pedagogy. This evidence reinforces the need for structural commitment to sustain educators' "bilingual" competence in AI-integrated beauty education. This requires institutional logic that supports continuous professional learning communities focused on pedagogical innovation, not just technical upskilling.

4.4. Foundational Ethical and Philosophical Grounding

Finally, a robust theoretical framework must embed ethical and philosophical inquiry at its core. This moves beyond ad-hoc "responsible use" guidelines to a sustained engagement with questions of authenticity, authorship, and the values embedded in AI systems (e.g., what is defined as "beautiful" by training datasets?). However, an important ethical tension arises from the cultural embeddedness of beauty standards. Globally trained AI models—often developed on Western-centric datasets—may reproduce aesthetic biases that marginalize diverse cultural expressions of beauty. In the context of beauty education, this raises critical questions about whose aesthetics are being algorithmically amplified and how local cultural values can be preserved and represented in AI-generated outputs (Choi, 2022). Addressing these issues requires developing culturally adaptive datasets and ethical guidelines that promote inclusivity and respect for aesthetic diversity. The logic of integration must explicitly include spaces for students to develop a critical digital consciousness, ensuring they become shapers, not merely users, of technology in their field.

5. Conclusion: The Logic of Synthesis

This study has elucidated the complex theoretical landscape surrounding the integration of artificial intelligence into beauty education, foregrounding a persistent disconnect between the external imperatives for technological adaptation and the ingrained structural and epistemic conventions of established curricula. While generative AI offers a potent framework for reimagining the role of the "beauty

creator", moving from potential to practice necessitates a transformation that exceeds mere curricular augmentation. The central proposition advanced here is that substantive integration cannot be reduced to a technical exercise of embedding AI tools into existing pedagogical formats. Instead, it calls for a principled synthesis, anchored in a critical re-examination of the field's foundational premises. This entails an epistemological shift towards valuing hybrid (human-AI) creative processes; a corresponding restructuring of curricular objectives around integrative competencies that interweave traditional craft with digital literacies; a redefinition of the educator's function from knowledge deliverer to designer of learning experiences and facilitator of ethical deliberation; and the cultivation of a critical philosophical stance towards the technology itself. Consequently, advancing beauty education in the AI era is best understood as an exercise in reflective educational design, wherein every facet—from defining learning outcomes to devising assessments—is continually examined through the interdependent lenses of pedagogy, content, and technology. By offering this conceptual roadmap, the present analysis contends that a coherent theoretical framework is indispensable for guiding beauty education toward its necessary evolution: the formation of discerning, innovative, and ethically engaged professionals equipped to navigate and shape the industry's digital trajectory.

Acknowledgements

The authors would like to express their sincere gratitude to the reviewers for their insightful comments and constructive suggestions, which have greatly enhanced the rigor and clarity of this manuscript.

We acknowledge the Open Journal of Social Sciences for the opportunity to publish our work and for its commitment to facilitating open academic exchange.

We are particularly grateful to the corresponding author, Professor Hyekyun Kim, for her expert guidance throughout the conceptualization and development of this research, for her critical revision of the manuscript, and for stewarding the submission and revision process.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Anantrasirichai, N., & Bull, D. (2022). Artificial Intelligence in the Creative Industries: A Review. *Artificial Intelligence Review, 55,* 589-656. https://doi.org/10.1007/s10462-021-10039-7

Baek, H. Y. (2019). A Study on the Development Plan of the Beauty Industry in the Era of the 4th Industrial Revolution. *Journal of the Korean Society of Cosmetics and Beauty, 9,* 455-462.

Choi, E. S. (2022). Changes in Beauty Education Paradigm Responding to the Digital Transformation Era—Based on Cosmetics and Beauty Industry Trends Analysis. *Journal of the Korean Society of Beauty and Art, 28,* 675-688.

Christensen, C. M., Horn, M. B., & Johnson, C. W. (2008). *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*. McGraw-Hill.

Department for Science, Innovation and Technology (2023). *National AI Strategy: 2023 Progress Report*. UK Government.

Garg, M., & Bakshi, A. (2024). Exploring the Impact of Beauty Vloggers' Credible Attributes, Parasocial Interaction, and Trust on Consumer Purchase Intention in Influencer Marketing. *Humanities and Social Sciences Communications, 11,* 235-262. https://doi.org/10.1057/s41599-024-02760-9

Heo, Y. J., & Lee, J. H. (2022). Analysis of the Current Status of Curriculum in Beauty-Related Universities. *Journal of the Korean Society of Beauty and Art, 23,* 227-241.

Jeon, S. J. (2022). A Case Study on Activity-Based Artificial Intelligence Ethics Education for Liberal Arts Education. *Journal of Artificial Intelligence Research, 3,* 30-39.

Jo, H. Y., & Oh, S. W. (2024). Analysis of Differences in Digital Learning Competencies and Educational Needs According to University Students' AI Education Experience. *Learner-Centered Curriculum and Instruction Research, 24,* 15-27.

Jung, J. H., & Lee, E. J. (2024). Exploring Teachers' Acceptance Levels and Improvement Plans for AI-Based Teaching and Learning Platforms. *Journal of Educational Information and Media, 30,* 1659-1687.

Kang, I. H. (2019). The Fourth Industrial Revolution and the Future of University Education—Focusing on Domestic and International Innovation Cases. *Journal of Educational Innovation Research, 29,* 279-297.

Kim, B. H. (2024). Applicability and Issues of Generative AI-Based EdTech in Korean Language Education—Focusing on University Korean Teachers' Perceptions and Characteristics of Generative AI. *Journal of General Education Research, 18,* 291-307.

Kim, B. R., & Kim, J. W. (2025). Analysis of the Current Status of Education for the Promotion of AI Convergence Education in the Beauty Sector. *Journal of the Korean Society of Beauty and Art, 26,* 23-34.

Kim, H. S., Kim, D. H., Kim, S. E., & Lee, W. J. (2022). Analysis of the Current Status of AI Major Curricula in Domestic Universities Based on Standard AI Curriculum. *Journal of the Korea Computer Information Society, 27,* 25-31.

Kim, H.-S., & Park, J.-A. (2023). Analysis of Research Trends in Cosmetology Education Using Text Mining. *Journal of the Korean Society of Cosmetology, 29,* 582-592. https://doi.org/10.52660/JKSC.2023.29.3.582

Kim, Y. A., & Ahn, J. H. (2025). A Study on the Use of Generative AI in Video Production—Centered on Actual Project Production Experience. *Journal of Communication Design Research, 90,* 547-563.

Lee, G., Ha, J., & Cha, H. (2024). Analyzing the Needs for Learner Characteristics Diagnosis and Analysis through AI-Based Customized Teaching and Learning. *The Journal of Korean Association of Computer Education, 27,* 1-16. https://doi.org/10.32431/kace.2024.27.8.001

Lee, S. K. (2022). A Case Analysis Study of University Curriculum—Focusing on YouTube Creator Education Curriculum. *Journal of the Korea Academia-Industrial Cooperation Society, 23,* 247-257.

Leiker, D., Gyllen, A. R., Eldesouky, I., & Cukurova, M. (2023). Generative AI for Learning: Investigating the Potential of Learning Videos with Synthetic Virtual Instructors. *AIED, 1831,* 523-529.

Ministry of Education of the People's Republic of China (2023). *Action Plan for Artificial Intelligence Education in Higher Institutions (2023-2030)*. Ministry of Education.

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *Teachers College Record, 108,* 1017-1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

Moon, S. Y., & Kim, Y. A. (2024). A Study on the Development of Beauty Convergence Subjects Using Generative AI. *Journal of the Korean Society of Beauty and Art, 25,* 123-147.

Pan, L. Y., & Lee, C. T. (2024). How Does Engagement on Social Media Reinforce Life Aesthetic Literacy? The Role of Interpersonal and Intrapersonal Influences. *Computers in Human Behavior, 161,* Article 108409. https://doi.org/10.1016/j.chb.2024.108409

Pugalendhi, R. (2025). Women YouTubers and Digital Entrepreneurs: Exploring Women's Voices, Visibility, and Ventures on YouTube. *Research Gate*. https://www.researchgate.net/publication/398123988

Runway Research (2023). *More Control, Fidelity and Expressibility*. https://runwayml.com/research/more-control-fidelity-and-expressibility

Wei, X. D., Wang, L., Lee, L. K., & Liu, R. X. (2025). The Effects of Generative AI on Collaborative Problem-Solving and Team Creativity Performance in Digital Story Creation: An Experimental Study. *International Journal of Educational Technology in Higher Education, 22,* 23-45. https://doi.org/10.1186/s41239-025-00526-0