Article

The Path and Practice of AIGC Empowerment of College Brand Image Design Course Teaching Reform

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Abstract: With the continuous advancement of artificial intelligence technology, AIGC (Artificial Intelligence Generated Content) has deeply penetrated the creative design field, substantially impacting the teaching paradigms of university brand identity design courses. Current educational systems face structural challenges such as outdated knowledge, limited practical approaches, and insufficient innovation cultivation, making it difficult to meet the demands of digital brand communication. The integration of AIGC technology not only expands the boundaries of design generation and enhances visual output efficiency, but also shifts the focus of teaching from skill training to strategic thinking and human-machine collaborative innovation. Empirical observations from pilot courses at multiple art institutions demonstrate that project-based teaching incorporating generative models significantly strengthens students' comprehensive abilities in dynamic construction of brand recognition systems, data-driven visual expression, and cross-media storytelling. Grounded in the dual logic of industrial transformation and educational adaptation, this paper explores curriculum restructuring pathways under technological integration. It emphasizes building a new teaching ecosystem that combines critical thinking with technical responsiveness while maintaining design subjectivity, providing actionable paradigm transformation references for cultivating design talents in the new era.

Keywords: AIGC; universities; brand image design courses; teaching reform

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1. Introduction

Brand image design represents a fundamental and indispensable core course within the comprehensive curriculum of university art and design programs. The primary pedagogical objective of this course is to systematically equip students with professional competencies in strategic planning, visual execution, and the multidimensional communication of brand identities. In the contemporary market landscape, a brand's visual identity serves as a critical bridge between corporate values and consumer perception, necessitating a high level of creative and technical proficiency from design graduates.

However, despite its importance, traditional brand image design education currently faces a series of multifaceted challenges that hinder its effectiveness. Conventional teaching models often struggle with outdated curricular content that fails to keep pace with rapid industry shifts [1]. Furthermore, the reliance on monotonous pedagogical methods and a persistent lack of sufficient practical components have created a significant gap between classroom theory and real-world professional demands. These limitations make it increasingly difficult for universities to cultivate the specialized talent required to navigate the complexities of brand identity in the modern era.

The rapid emergence and advancement of Artificial Intelligence Generated Content (AIGC) technology present transformative opportunities and innovative solutions to

address these long-standing educational bottlenecks. AIGC capabilities allow for the instantaneous generation of diverse design materials, complex creative proposals, and varied aesthetic explorations. By integrating these tools into the classroom, educators can provide students with an unprecedented abundance of visual resources and novel methodological approaches to creative problem-solving [2]. This technological integration not only enhances the efficiency of the design process but also encourages a more exploratory and iterative learning environment.

Consequently, conducting a rigorous exploration into how AIGC can effectively empower the structural reform of brand image design courses in higher education is of profound practical and academic significance. This paper aims to analyze the integration of generative AI within the design curriculum to foster a teaching model that is more responsive, innovative, and aligned with future industry standards.

2. The Necessity of AIGC Empowering the Teaching Reform of College Brand Image Design Courses

2.1. Meeting the Needs of the Times

In the digital era, the media ecosystem of brand communication and user cognition patterns have undergone profound transformations, posing structural challenges to traditional brand image design pedagogy. According to iiMedia Research 2023 data, over 68% of new consumer brands leverage AI-generated content for visual system development during initial product launches, reflecting the industry's urgent demand for efficient and agile design responsiveness. AIGC (Artificial Intelligence Generated Content) not only restructures design production chains but also drives brand image evolution from static symbols to dynamic, personalized, and data-driven expressions. Under these circumstances, university curricula still limited to hand-drawn representation and fixed template training will struggle to align with real-world industry scenarios [3]. The teaching system urgently needs to integrate generative model application logic, enabling students to master brand visual deduction, style transfer, and multimodal output capabilities based on prompt engineering, thereby fostering a deep understanding of digital-native brand construction mechanisms.

2.2. The Need to Improve Teaching Quality

The traditional lecture-copying teaching model suffers from one-way knowledge transmission and delayed feedback, hindering the development of higher-order thinking skills. The introduction of AIGC tools enables interactive restructuring of the teaching process. Teachers can utilize Stable Diffusion or Midjourney to generate design case libraries with specific cultural contexts and market positioning, guiding students to conduct critical analysis and identify stylistic causes and symbolic metaphors through comparison. Students can rapidly complete multiple rounds of scheme iterations, strengthening the logic and strategic nature of design decisions through closed-loop training of "input-generate-evaluate-iterate" [4]. Empirical studies show that after introducing AIGC-assisted teaching in an experimental class at a university in East China, students 'scheme output density increased nearly threefold, with creativity diversity index significantly higher than the control group. This demonstrates that technological intervention effectively activates learners' exploratory motivation and problem-solving flexibility.

2.3. Requirements for Cultivating Innovative Talents

Innovation is not about chaotic divergence, but the ability to achieve breakthrough connections under constraints. As an external cognitive scaffold, AIGC can break students' reliance on fixed visual experiences and stimulate cross-domain associations. For instance, by inputting non-visual texts such as poetry, philosophical propositions, or social phenomenon descriptions, it generates brand image prototypes with abstract

spiritual cores, thereby expanding the boundaries of design thinking. Teaching practices at Tsinghua University Academy of Arts & Design demonstrate that when students use AIGC for conceptual incubation, their works receive higher evaluations in emotional resonance and cultural appropriateness. This indicates that deep integration of technical tools facilitates the transition from "form imitation" to "meaning construction," cultivating interdisciplinary design talents with forward-looking vision and human-machine collaborative innovation capabilities [5].

3. Problems in the Current Teaching of Brand Image Design Courses in Universities

3.1. Outdated Teaching Content

At present, the established knowledge systems within university brand image design courses remain largely confined to a visual symbol construction paradigm inherited from the late 20th century. This traditional framework prioritizes static output modules, such as the derivation of logo forms, the establishment of standard color spectrums, and the development of traditional packaging visual systems. However, such a limited scope is increasingly inadequate for addressing the contemporary design landscape, which is characterized by dynamic, data-driven, and highly interactive contexts [6]. As digital media becomes the primary touchpoint for brand communication, the reliance on fixed assets fails to prepare students for the fluid nature of modern brand identities.

Against the strategic backdrop of Artificial Intelligence Generated Content (AIGC) technology deeply integrating into the global creative industry, the fundamental generation logic of brand visual assets has undergone a profound shift. The creative process has transitioned from a linear, manual drawing workflow to a sophisticated model of human-machine collaborative iteration. This evolution highlights a significant structural gap between traditional course content and current industry frontiers. For instance, advanced industry practices now utilize generative models to achieve real-time responsive updates of brand visual systems, a level of technical agility that remains absent from most academic curricula. This discrepancy suggests that higher education is currently trailing behind the practical technological applications that have already become standard in professional design environments [7].

According to authoritative industry analysis, a substantial majority of design courses-exceeding 67%-have not yet integrated generative artificial intelligence into their formal syllabi. This lack of integration makes it difficult for students to master essential emerging competencies that are now critical for employment. These include brand image translation based on prompt engineering, precise style transfer control, and the rigorous evaluation of multimodal outputs. Beyond technical skills, the current curriculum frequently lacks necessary academic discussions regarding algorithmic ethics, intellectual property ownership in the age of AI, and the overall credibility of generated content. Such omissions weaken students' critical judgment and their ability to navigate the complex legal and ethical landscapes of modern technology application.

Ultimately, this persistent path dependence in knowledge supply results in teaching outputs that fail to meet the actual practical demands of the market. Modern brands are rapidly extending their presence into complex digital scenarios, including immersive virtual environments, AI-driven customer service interfaces, and the creation of virtual spokespersons. Without a significant overhaul of the existing educational framework to include AIGC-driven methodologies, university design programs risk producing graduates whose skills are misaligned with the multidimensional needs of the future creative economy.

3.2. Monotonous Teaching Methods

Traditional teaching models predominantly adhere to the "teacher demonstration-student imitation" unidirectional transmission mechanism, with classroom dominance concentrated in knowledge infusion while neglecting the generation process of design

thinking and cognitive transition patterns. The lecture-dominated teaching context lacks complexity oriented by problem-solving, often forcing students to construct solutions in a vacuum environment detached from real user behavior data and market feedback mechanisms, resulting in a disconnect between creative generation and strategic implementation. Although some institutions have introduced software operation training, such practice remains at the tool level without establishing logical connections between technical skills and design decision-making. The trial-and-error feedback loop emphasized by the "workshop system" advocated by Germany's Bauhaus School in its early years has nearly disappeared from contemporary classrooms. When facing modern brand projects requiring integration of natural language understanding, style adversarial generation, and cross-media adaptation, students exhibit strategic blind spots and limited adaptability due to long-term lack of autonomous exploration mechanisms, reflecting deep-seated deficiencies in pedagogical approaches to shaping cognitive structures.

3.3. Insufficient Practical Components

While most universities offer graduation projects or course-based training as practical training platforms, these initiatives often stem from virtual assignments or instructors 'preconceived plans, lacking real-world commercial constraints and user validation loops. Students working without cost controls, stakeholder negotiations, or market launch pressures are prone to falling into formalism traps. According to the 2022 Undergraduate Teaching Evaluation data from China's Ministry of Education, less than 28% of art programs feature industry-academia collaborative projects-a significant gap compared to the engineering discipline's average. Limited practical resources, compounded by outdated equipment and compressed project timelines, leave students unable to participate in full-cycle processes from brand diagnostics and data collection to model optimization and A/B testing. Essential teaching elements like multi-stakeholder collaboration, rapid prototyping, and dynamic adjustment mechanisms, commonly seen in real-world projects, are often simplified or omitted. This directly impacts graduates' professional adaptability in the intelligent design ecosystem.

4. The Path of AIGC Empowering the Teaching Reform of University Brand Image Design Course

4.1. Update the Teaching Content

To systematically integrate AIGC technology into brand identity design curricula, educators must move beyond technical demonstrations at the tool level and focus on deepening the integration of methodology and design thinking. The curriculum should cover fundamental principles of generative models, prompt engineering strategies, and semantic alignment mechanisms for multimodal outputs, helping students understand the controllable design boundaries behind algorithmic logic. Cutting-edge practices such as building brand visual gene banks, style transfer training, and dynamic logo generation should be introduced to strengthen the data-driven design framework. By analyzing real-world cases of AI-powered brand iterations at companies like Nike and Airbnb, the curriculum reveals the balance between brand consistency and innovation under algorithmic assistance. An ethics module should be added to explore risks related to copyright ownership, originality definition, and cultural biases in automated generation, cultivating students' technical discernment and social responsibility awareness.

4.2. Innovative Teaching Methods

The pedagogical paradigm is restructured to prioritize student-centered learning, transitioning from teacher-dominated instruction to collaborative teacher-student co-creation. Leveraging the real-time feedback mechanism enabled by the AIGC platform, an iterative cycle of "design-generate-evaluate-redesign" is implemented to stimulate exploratory learning behaviors. In project-based learning, ambiguous tasks such as

"creating a growth-oriented visual system for a carbon-neutral city" are designed to guide students in conceptual divergence using diffusion models, with feasibility solutions filtered through adversarial validation. Role-based simulations embedded in group collaboration-such as brand strategists, AI coordinators, and user researchers-enhance cross-functional communication skills. Creative deliberations are facilitated via natural language interfaces, with decision trajectories documented during the generation process to form traceable design logs that serve as critical benchmarks for cognitive development assessment.

4.3. Strengthening Practical Teaching

To bridge the disconnect between education and industry chains, we establish an immersive practice ecosystem rooted in real-world business scenarios. Partnering with regional SMEs or emerging DTC brands, we implement brand revitalization programs where students complete end-to-end workflows-from consumer profiling to batch visual asset adaptation-using AIGC within constrained datasets and KPIs. Universities collaborate with tech firms to build cloud-based sandbox labs, integrating Stable Diffusion API, MidJourney plugins, and Figma components for high-concurrency prototyping and multi-device previews. A/B testing simulators quantify user-perceived impacts of different generation strategies, fostering results-driven optimization. Practical outcomes are archived in regional innovation databases, with selected high-quality solutions commercialized through IP agreements, effectively extending educational value into societal benefits.

5. Practical Strategies for Teaching Reform of AIGC Empowered College Brand Image Design Courses

5.1. Teacher Training and Capacity Building

The professional competence of teaching professionals directly determines the depth of curriculum reform implementation and educational outcomes. Against the backdrop of AIGC technology rapidly permeating the design field, universities must establish systematic teacher development mechanisms to transform traditional design educators into interdisciplinary mentors integrating technology, creativity, and pedagogy. Leveraging national-level virtual teaching research platforms, modular workshops should be conducted covering core topics such as generative model principles, prompt engineering strategies, and multimodal output evaluation, while enhancing teachers' technical understanding and critical application skills of toolchains like Stable Diffusion and ControlNet. Simultaneously, faculty participation in industry-education integration projects is encouraged, where they serve as technical advisors in real brand upgrade cases to accumulate experience in AIGC-driven design process management. Some institutions have piloted "dual-teacher rotation" mechanisms, pairing design faculty with computer science researchers to facilitate interdisciplinary knowledge transfer. These practices not only improve technical proficiency but also reshape teaching cognitive frameworks, enabling educators to guide students in balancing algorithmic efficiency and aesthetic value within complex design scenarios.

5.2. Optimization of the Curriculum System

The iterative curriculum structure must respond to paradigm shifts in the industry, breaking the linear model of traditional brand image design courses that prioritizes visual representation over strategic thinking. A core course titled "AI-Driven Brand System Design" should be integrated into senior-year programs, combining brand semantic extraction, data visualization storytelling, and dynamic visual generation to create a closed-loop training pathway from conceptual derivation to asset output. The foundational stage should include a mandatory module on "Intelligent Media and Design Ethics," exploring copyright boundaries for generated content, avoidance of cultural

biases, and sustainable design responsibilities to cultivate students' technical ethics awareness. The curriculum adopts a "spiral progression" framework: junior years focus on human-machine collaboration training, intermediate years introduce automated adaptation tasks under constraints, and senior years' address uncertainty challenges like multi-round generation optimization based on fuzzy user feedback. Pilot course data from Guangzhou Academy of Fine Arts in 2023 demonstrated that this system increased student solution iteration speed by approximately 47%, with cross-platform visual consistency compliance rates significantly higher than the control group.

5.3. Reform of Teaching Evaluation

The evaluation system must transcend static outcome-oriented approaches and shift toward dynamic capture of cognitive processes and technological decision-making logic. A comprehensive assessment model comprising three dimensions- "generation trajectory analysis, human-machine collaboration efficiency, and innovation risk-taking" -was established. By leveraging an automated design log archiving system to record students 'behavioral data during prompt adjustments, parameter optimization, and version comparisons, quantifiable learning profiles were formed. In summative evaluation, the "generative rationality" metric was introduced to assess students' ability to perform semantic validation, style correction, and brand fit judgment on AI outputs. Formative evaluation, through role-playing tasks, measured their practical wisdom in coordinating algorithmic resources and creative objectives within teams. Experiments at China Media University demonstrated that adopting this evaluation framework increased students' strategy diversity index by 31.6% when facing non-standardized tasks, indicating enhanced capability in addressing complex problems. The evaluation itself became a teaching intervention tool, driving learning behaviors toward deeper cognitive evolution.

6. Conclusion

The rapid development and integration of Artificial Intelligence Generated Content (AIGC) technology have ushered in a transformative era for higher education, presenting a unique intersection of unprecedented opportunities and complex challenges for the pedagogical reform of brand image design courses. As digital tools continue to evolve, the traditional boundaries of creative expression are being redefined, necessitating a comprehensive shift in how design education is conceptualized and delivered in the university setting. This research emphasizes that the successful modernization of the curriculum depends on a multifaceted approach that addresses both technical proficiency and conceptual innovation.

By systematically updating instructional content to reflect cutting-edge industry trends, innovating teaching methodologies through the adoption of interactive and AI-assisted tools, and significantly strengthening the practical training components of the syllabus, academic institutions can bridge the gap between theoretical knowledge and professional application. Furthermore, the implementation of supporting strategies-such as professional development programs for faculty members, the optimization of integrated curriculum structures, and the establishment of more nuanced and multidimensional evaluation systems-is essential for creating a sustainable educational ecosystem. These systemic reforms are crucial for enhancing the overall quality of teaching and for nurturing a new generation of brand image designers who possess robust innovative thinking, advanced technical mastery, and strong practical competencies.

Looking toward the future, it is imperative that higher education institutions proactively investigate and expand the application of AIGC technology within the specialized field of brand image design education. Such active exploration will serve as a powerful catalyst for driving deeper pedagogical innovation and ensuring that design programs remain at the forefront of technological progress. Continuous research and iterative practice in this domain will ultimately contribute to the cultivation of high-

quality creative talents capable of navigating and shaping the future of the global brand identity landscape.

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