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Reconstruction of Core Competencies in Higher Vocational Media Design Programs Driven by Regional Cultural IP Projects under the Empowerment of AIGC

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Abstract

Generative artificial intelligence (AIGC) is extending rapidly from image generation into full-cycle content production, including video creation and comic-drama production, and is thereby confronting five-year higher vocational media and design programs with a structural challenge to their established skill-oriented training model. When mechanical operational skills are superseded at scale, the question of how the core value of design education should be re-established becomes a pressing theoretical and practical problem for vocational education. Grounded in the reality that AIGC now intervenes throughout the content-production workflow, and taking Jiangsu Communication and Media School's participation in the comic-drama AIGC production project of JiangSu Broadcasting Corporation as its empirical field, this study constructs a progressive five-competency model for the digital-intelligence era—comprising aesthetic sensibility, judgement, collaboration, adaptability, and innovation—and designs a seven-step instructional chain that integrates these competencies. The study finds that authentic production projects driven by regional cultural IP, mediated by a dual-loop teaching mechanism and a restructured human–machine workflow, can effectively correct such competency imbalances as aesthetic hollowing-out and judgement displacement syndrome, and can shift talent cultivation from isolated skill training toward the systematic cultivation of core literacy.

Keywords: AIGC, regional cultural IP, higher vocational education, reconstruction of core competencies, industry–education integration

1. Introduction

1.1 Background

Between late 2022 and early 2023, generative AI tools represented by Midjourney, Stable Diffusion, and ChatGPT entered the field of visual design at remarkable speed. By 2025–2026, AIGC applications had expanded from standalone image generation to full-cycle production links such as video creation and comic-drama production. Consider Drama Dream (Ju meng), an AI short-drama creation platform independently developed by Jiangsu Broadcasting Corporation: it can now support the entire comic-drama production chain, from script conception and character modelling to scene generation and post-production compositing. When AI can complete within hours a creative task that formerly required a team several weeks, a fundamental question that higher vocational education can no longer avoid comes to the fore: what, precisely, is the irreplaceable core competence of the graduates that media and design programs produce?

The predicament of five-year higher vocational media and design programs is especially instructive. With a shorter programme length and a student body drawn mainly from junior secondary school graduates, these programs have traditionally positioned themselves as cultivating "high-quality skilled talent." Under the established teaching logic, a large share of contact hours is allocated to mechanical skill drills—software operation, hand-drawing fundamentals, and asset assembly. Yet once AI can instantly perform cut-outs, colour matching,

storyboard generation, and even script conception, the instructional return on such traditional skills falls sharply, and the structural mismatch between the supply of talent and the competence demands of industry becomes increasingly conspicuous.

Existing responses fall broadly into three categories: a prohibitionist camp, which bans AI tools in teaching in order to preserve the traditional instructional order; a laissez-faire camp, which permits students to use AI freely but offers no systematic instructional guidance; and an integration camp, which attempts to incorporate AI into teaching but seldom moves beyond the level of tool operation. None of these three approaches confronts the following fundamental questions head-on. First, once hands-on design making—the core instructional link—is taken over by AI, where should the core objectives of design teaching turn? Second, how should the competency structure of design talent be redefined?

These contradictions give rise to the central question of this study: against the background of AIGC's deep intervention in the full content-production workflow, what core competencies should media and design programs cultivate, what structure and generative logic should this competency system exhibit, and how can it be brought to life in authentic production contexts through the systematic reconstruction of the instructional chain? Going further, projects built around regional cultural IP—for instance, contemporary reinterpretations of traditional cultural symbols such as those in the Classic of Mountains and Seas—can guide students toward a balance point of human–machine collaboration in the spirit of upholding tradition while innovating, a prospect of considerable theoretical value and practical urgency.

1.2 Significance of the Study

Theoretically, this study proposes a progressive five-competency model in an attempt to fill a gap in research on the competency structure of design education in the AIGC era. Existing scholarship either focuses on a single competency dimension, such as judgement or aesthetic sensibility, or places several competencies side by side without hierarchy; systematic modelling that proceeds from the generative logic of competencies remains rare. By organising the five competencies according to the progressive logic of aesthetic grounding, judgement and decision-making, communication and connection, adaptive response, and creative leap, this study offers a new theoretical framework for research on the competency structure of design education in the digital-intelligence era.

Practically, this study takes Jiangsu Communication and Media School's participation in the comic-drama AIGC production project of Jiangsu Broadcasting Corporation as an empirical case and thereby offers vocational media and design programs a teaching reform pathway that has been tested in an authentic production context. The pathway does not rely on idealised instructional conditions; it takes full account of the resource constraints of industry–education integration and the cognitive foundations of higher vocational students, and it is intended to provide front line teachers and academic administrators with a transferable framework for reform.

2. Literature Review

2.1 Research on AIGC and Design Education

Research abroad began earlier. Dehouche et al. (2023) systematically examined the impact of generative AI on creative education and argued that AI literacy should become a foundational competency of design education in the twenty-first century. Drawing on a mixed-methods study of design students and faculty, Sperano et al. (2023) revealed a divided academic perception of AI: students generally adopt an acceptant attitude, whereas teachers display marked anxiety and resistance. Doyle (2024), taking the Rhode Island School of Design as a case, reported on the teaching practice and reflective lessons of incorporating Midjourney into an illustration course.

Domestic research has grown rapidly since 2023. At the level of curriculum reconstruction, Guo(2025) explored pathways for restructuring the curriculum system of visual communication design under AIGC. At the level of talent demand, Yi (2025) focused on higher vocational institutions and pointed out that, in the context of industry–education integration, enterprises need designers who can command AI rather than merely operate software. At the level of value and ethics, Xue (2025) analysed the deep transformation of art and design education in universities under AIGC along three dimensions: value core, ethical risk, and paradigm evolution. At the level of literacy requirements, Wang Lei of the Communication University of China observed at the “From Digital to Digital-Intelligence” symposium that the demands on art education are now higher than before, stressing that students should be equipped with a body of knowledge, aesthetic capacity, social reflection, and an understanding of human emotion. At the level of teaching practice, Feng et al. (2024) used AIGC to empower design teaching and achieved gains in students’ innovative thinking, software skills, and interdisciplinary integration, improving instructional efficiency and quality and advancing digital transformation in an industry–education context. Feng et al. (2024) integrated AIGC into design workshop teaching and, through school–enterprise collaboration, enhanced students’ design thinking, creativity, self-efficacy, and teamwork, while also identifying the limitations of AIGC tools with respect to cultural diversity and ethical responsibility and proposing corresponding improvements.

2.2 Research on Design Competency Models and Industry–Education Integration

Research on design competency models has accumulated a certain foundation in design studies and media education. Cross (2006) argued that design knowledge is constituted through designerly ways of knowing and cannot be reduced to the operation of tools or techniques. The Designer Competency Standards proposed by the American Institute of Graphic Arts (AIGA) cover such dimensions as design thinking, visual literacy, technical skill, and communicative collaboration; such standards, however, are largely static inventories that fail to disclose either the generative relations among competencies or their hierarchical structure. With the rise of AIGC, some scholars have begun to revisit the structure of design competency: Feng et al. (2024) proposed a five-dimensional integrated evaluation model for AI artworks, covering conception, labour, collaboration, presentation, and influence, while the School of Fine Arts at Linyi

University advanced a five-element competency framework of questioning, discernment, innovation, transfer, and collaboration.

Industry–education integration is a central theme of vocational education. The collaboration between Jiangsu Communication and Media School and Jiangsu Broadcasting Corporation offers a representative sample: the school has established an AIGC Innovation Workshop, sends teachers to study at the corporation's national-level laboratory, and enables students to take part in authentic comic-drama production projects under the joint supervision of industry mentors and in-house teachers. Such deep integration provides a natural situated vehicle for AIGC teaching reform; yet the relevant research remains at the stage of experiential summary and lacks systematic theoretical distillation. It is precisely at the intersection of this gap and this practical context that the present study establishes its scholarly position.

3. The Implicit Logic of Competency Formation in Traditional Teaching

Before AIGC intervened deeply, teaching in media and design programs followed a logic that, though rarely articulated, was relatively stable: skill drill, the accumulation of experience, and the natural sedimentation of competency. Take Post-Production for Film and Television, a typical course in the five-year higher vocational digital media programme. Traditional teaching usually follows a path in which the teacher demonstrates software techniques, students practise repeatedly, a sense of rhythm and colour tone accumulates, and an initial editing judgement takes shape. This model rests on an implicit premise: the transformation from skill to competency requires a substantial investment of time and sustained reflective practice Schön(1983). Once AIGC fundamentally compresses the time required for skill drills, the foundation of that model begins to shift.

Evidence from industry supports this judgement: mainstream media organisations and technology companies have updated their recruitment standards so that the ability to operate AI tools has been upgraded from a bonus to an entry threshold, while aesthetic taste, creative judgement, and composite literacy have become the key variables distinguishing levels of talent. This shift is manifested systematically across five dimensions: the demand for aesthetic capacity has been strengthened rather than weakened; judgement has moved from an additional score to a base score; communicative and cooperative capacity has been upgraded toward human–machine and cross-boundary collaboration; the demand for adaptive capacity has been brought forward; and innovative capacity has become the ultimate and most discriminating indicator.

Survey data and classroom observation show that, once the traditional logic of competency formation is broken, the resulting imbalance assumes four typical manifestations. The first is aesthetic hollowing-out: students can operate AI to generate visually refined images, yet lack the capacity to judge whether an aesthetic style suits the narrative requirements. The second is judgement displacement syndrome: students surrender the right of choice to AI, uncritically adopting the first generated proposal and abandoning the subjectivity of design decision-making. The third is communicative inertia: some students become absorbed in dialogue with AI and

avoid genuine communication with clients and team members. The fourth is fragility under pressure: when AI output departs from expectations or project standards change, students display an insufficient repertoire of strategies and a lack of psychological resilience.

4. Reconstruction of the Instructional Chain: A Teaching Design Integrating Multiple Competencies

4.1 Basic Principles of Chain Design

The design follows five principles: multi-dimensional integration, progressive exposure, industry-embedded context, student agency, and assessability.

4.2 Full Unfolding of the Seven-Step Instructional Chain

Drawing on the comic-drama AIGC production project jointly undertaken by Jiangsu Communication and Media School and Jiangsu Broadcasting Corporation, this study constructs a seven-step instructional chain comprising context construction, aesthetic study, standard construction, AI-collaborative creation, proposal judgement and justification, adaptive training, and iterative innovation.

Step 1 is context construction: students enter an authentic production field, clarify project tasks and professional responsibilities, and form a holistic understanding of the production workflow. Step 2 is aesthetic study: students conduct pixel-level deconstruction of benchmark comic-drama cases in order to establish a referential aesthetic coordinate system. Step 3 is standard construction: students draft a Comic-Drama Creation Proposal, producing judgement criteria and an evaluation framework specific to the project. Step 4 is AI-collaborative creation: students conduct human–machine dialogue and generate multiple proposals on platforms such as Drama Dream. Step 5 is proposal judgement and justification: students convene a mid-term review meeting at which they make and justify reasoned choices among competing versions. Step 6 is adaptive training: students make strategic adjustments in response to feedback from industry mentors on character consistency, performance fine-tuning, and related issues. Step 7 is iterative innovation: students break free of the path dependency imposed by AI's default templates and achieve a principled departure from convention in the final screening and delivery of the completed film.

5. An Analysis Based on the Comic-Drama AIGC Production Practice at Jiangsu Communication and Media School

5.1 Research Design and Implementation

This study takes students of the Digital Media programme at Jiangsu Communication and Media School and the project team of the AIGC Innovation Workshop as its research subjects. It combines classroom observation, analysis of process documents such as creation proposals, prompt logs, and revision records, in-depth interviews, and artefact analysis to trace the entire course of project implementation.

5.2 A Multi-Dimensional Analysis of Teaching Effects

With respect to aesthetic capacity, students' evaluative discourse evolved from an initial "it looks right to me" toward an analysis of visual appropriateness grounded in the cultural background of the IP; according to industry mentors, students have begun to unify the colour palette of the whole film consciously. With respect to judgement, proposal justification shifted from intuition-led reasoning with thin support toward structured, multi-dimensional argumentation integrating narrative function, stylistic consistency, and technical feasibility. With respect to communicative and cooperative capacity, prompts evolved from simple emotion labels into complex performance instruction sets, and in teamwork students established a coordination mechanism of daily stand-ups plus alignment at key milestones. With respect to adaptive capacity, students confronted with unexpected situations such as AI generation failures, technical constraints, and changes of requirement moved from emotionally driven responses to a structured pathway of problem diagnosis, option appraisal, and division of labour and execution. With respect to innovative capacity, students gradually overcame their path dependency on AI's default templates and learned to pursue principled departures from convention in the contemporary interpretation of regional cultural IP.

6. Discussion

Four problems recurred during implementation. The first concerns vague initial aesthetic standards among students; the response was to build a shared asset library inside and outside class and to conduct deconstruction training on benchmark cases. The second concerns role conflict within teams; the response was to introduce a weighted scoring system and a rotating peer-review mechanism so as to strengthen shared responsibility and mutual supervision. The third concerns difficulty in maintaining the consistency of AI-generated content; the response was to establish a triple-locking mechanism of spatial anchor, character anchor, and style anchor. The fourth concerns emotional management during adaptive training; the response was to establish a de-stigmatised help-seeking mechanism and a strategy of rotating tasks by stage.

7. Conclusion

Tested empirically through the comic-drama AIGC production project at Jiangsu Communication and Media School, the five-competency model and the seven-step instructional chain constructed in this study can effectively address the structural imbalance in the cultivation of media and design talent in higher vocational education under the impact of AIGC. The study shows that the authentic production context created by industry–education integration is an ideal vehicle for the synergistic growth of the five competencies, and that the cultivation of judgement and adaptive capacity in a human–machine collaborative setting constitutes the core competitiveness of media and design talent in the digital-intelligence era.

At the curriculum level, the balance between skill courses and literacy courses should be optimised and dedicated training modules for the five competencies embedded. At the

assessment level, a process-oriented assessment system grounded in a multi-competency model should be built, incorporating multiple assessors such as industry mentors. At the level of faculty development, dedicated training in Socratic questioning and adaptive teaching should be provided so as to strengthen teachers' capacity for human–machine collaborative instruction. At the level of industry–education integration, an integrated closed-loop mechanism of teaching, production, screening, and industrial translation should be promoted so as to achieve a deep coupling of talent cultivation and industrial demand.

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Author Statements

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