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"Digital Intelligence Empowerment, Cultural Enabling" — Exploring and Practicing the Training Model of Art and Design Graduate Students

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Abstract: As educators, we all hold our own vision of "educational ideals" and "ideal education". The new eras ideal education is rooted in the dual pillars of "digital empowerment and cultural cultivation". Only through the integration of these elements can students develop proper life aspirations, solid knowledge foundations, excellent critical thinking skills, effective working methods, harmonious interpersonal relationships, and healthy mental states, ultimately nurturing well-rounded talents. This educational reform, grounded in the dual context of digital empowerment and cultural development, establishes a "digital empowerment and cultural cultivation" model by integrating AI, big data, and digital technologies. It guides students to apply their knowledge holistically, enhancing practical thinking, innovation capabilities, and artistic literacy. This approach fosters positive teacher-student interactions and elevates overall educational outcomes.

Keywords: Digital empowerment; Cultural empowerment; Teaching practice; Inheritance and innovation

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1. Introduction

To cultivate people by first cultivating their morality, to carry out the fundamental task of establishing morality and cultivating people, and to cultivate a new generation of people who shoulder the great task of national rejuvenation, is the mission and responsibility of colleges and universities [1]. In his 2018 speech during a symposium with faculty and students at Peking University, President Xi Jinping emphasized that the effectiveness of moral education should serve as the fundamental criterion for evaluating educational work. He stressed the importance of cultivating students through cultural values and ethical principles, continuously enhancing their ideological awareness, political consciousness, moral character, and cultural literacy, while encouraging them to uphold great virtues, observe public ethics, and maintain strict personal integrity. Xi called for integrating moral education into all aspects of university development and management, ensuring that nurturing individuals

remains the core mission and moral cultivation serves as the fundamental foundation [2]. As educators, every teacher has their own "educational ideal" and "ideal education", so humanistic literacy education is the internal quality and cultural foundation of ideal education.

Graduate education serves as a vital platform for cultivating top-tier innovative talents for the nation. Empowering design graduate education reform through digital intelligence is a contemporary imperative to nurture high-caliber professionals capable of adapting to and leading future societal development. This educational reform, rooted in the dual contexts of digital empowerment and cultural nation-building, addresses core challenges in design graduate training: fragmented application of digital intelligence technologies, weak capacity for innovative transformation of traditional culture, and insufficient effectiveness of technology implementation. By integrating AI, big data, and other digital intelligence resources, it establishes a four-dimensional integrated cultivation model of "digital empowerment—innovation cultivation—technological enhancement—cultural empowerment", forming a three-stage training pathway of "technological foundation—innovative boundary-breaking—practical closed-loop".

2. Problems to be solved in the curriculum of art and design major in colleges and universities

Currently, Chinese universities are still in the exploratory phase of integrating digital and intelligent empowerment into art curriculum instruction. The true integration of quality education with specialized teaching remains unachieved, and a replicable teaching model has yet to emerge. Professional courses predominantly focus on theoretical instruction and technical presentation methods, while the objectives for guiding students to develop digital design competencies remain unclear.

(1) Superficial integration of digital and intelligent technology with traditional culture
Lack of the ability to use digital and intelligent thinking to explore the core of traditional culture and realize creative transformation, and the works are prone to fall into the misunderstanding of "formal retro" or "technological showmanship".

(2) Weak ability of innovation and transformation of traditional culture
Traditional culture is mostly focused on theoretical explanation, lacking of combination with modern design context, and the innovation results are "traditional but no vitality".

(3) There is a gap between technology application and cultural implementation
Cultural innovation design is difficult to be transformed into actual products or services, and the phenomenon of "creative suspension" is prominent.

(4) The separation between cultural literacy and design ability cultivation
Traditional cultural education is disconnected from design professional courses, and cultural literacy is only regarded as an "add-on", which is not truly internalized as the core driving force of design innovation.

(5) The evaluation system ignores the value of cultural transformation
The assessment of the excavation and transformation of traditional culture in the design results is insufficient, and there is a gap between students focus on the design goal of "adhering to the right and innovating".

3. Methods to solve teaching problems with "digital intelligence empowerment and cultural casting"

In the training of design graduate students, three core educational challenges have long persisted: First, the disconnect between theoretical knowledge and industrial practice under traditional models leaves students ill-equipped to meet complex real-world design demands. Second, the lack of systematic approaches to fostering innovation prevents creative ideas from translating into tangible outcomes. Third, the separation between technical tools and design thinking results in superficial application of digital technologies. To address these issues, the "Digital Intelligence Empowerment, Innovative Cultivation, and Technological Enhancement" training model has developed a replicable solution through three-dimensional collaborative innovation.

3.1. Digital and intelligent empowerment: Building a practice system of "digital intelligence + quality"

In traditional art and design education, students practical training often relies on virtual assignments, lacking real-world project experience, while interdisciplinary resources remain fragmented. In today's digital and intelligent teaching environment, advanced technologies like artificial intelligence have created teaching resources that effectively enhance both the efficiency and quality of educational development [3]. This model integrates AI-assisted design tools with a comprehensive digital intelligence + quality education system, systematically enhancing graduate students' holistic development. The curriculum defines quality education objectives, assessment methods, and standards, evaluating the achievement of these goals through formative and summative assessments.

3.2. Innovation and capacity building to create a closed loop from creativity to results

Guided by industry demands, we implement a dual-mentor system where academic mentors steer design theory frameworks while industry mentors bring cutting-edge market insights and project experience. This approach guides students to identify innovative topics through societal challenges and industry transformations. This study established "Innovation Workshops" that encourage graduate students to form interdisciplinary teams, integrating knowledge from design, communication, and promotion to complete the full process from creative conception to commercialization. Additionally, we create an innovation incubation mechanism that connects with enterprises and other resources, helping outstanding projects transition from campus to market.

3.3. Technical capacity building to promote the deep integration of digital technology and art design

Graduate students in design programs often exhibit weak technical application skills or a disconnect between technical proficiency and design thinking. Digital technology, as an artistic medium, can create innovative artistic languages and immersive experiences. By leveraging virtual/augmented reality (VR/AR) technology through spatial computing and multimodal interaction, we can construct integrated virtual-realistic immersive art environments [4]. Therefore, in curriculum objectives and teaching methodologies, we guide students to leverage digital technologies for the creative transformation and innovative development of Chinas outstanding traditional culture. Through practical applications and competitions in areas like regional cultural branding, digital media, and information design, students continuously enhance their "soft power". We also offer integrated "Digital Design" seminar courses, inviting technical experts and design masters to analyze case studies. This approach helps students understand how technical logic serves design objectives, enabling them to apply technology in

projects to solve design challenges and create more fluid, personalized user experiences. Ultimately, technology becomes a powerful catalyst for design innovation.

3.4. Cultivate cultural competence and promote the coupling of excellent traditional culture and digital technology

This study continues to promote both cultural communication and brand building, promote the coupling of excellent traditional Chinese culture and digital technology, expand the effectiveness and pertinence of cultural product supply, guide graduate students to form correct cultural value orientation, and enhance their value and emotional identification with excellent traditional Chinese culture [5]. By integrating theses with supervisors' research projects and implementing project-based and task-driven learning, we genuinely strengthen the cultivation of design concepts such as "inheritance and innovation" and "China style", achieving the unity of competence and quality education. In line with the development trends of digital industrialization and industrial digitalization, we promote the creative transformation and innovative development of Chinas excellent traditional culture through educational practices that integrate the narrativity of culture with the plasticity of technology [5].

Through the coordinated efforts of digital intelligence, innovation, technology and culture, the ecological environment of design graduate education is reshaped to realize the seamless connection between talent training and industrial needs, so as to provide high-end talents with both practical ability, innovative spirit and technical literacy for the design industry, and promote the high-quality development of design education and industry.

4. Innovation points of integrating "digital intelligence empowerment and cultural casting" into professional courses

4.1. Innovation of talent training concept in the era of digital intelligence

In the digital intelligence era, adhering to the principles of "solid foundation, broad knowledge, distinct characteristics, output-oriented, and comprehensive development", cultivating interdisciplinary and innovative talents requires not only specialized expertise but also fundamental digital intelligence thinking and skills, enabling creative problem-solving. Secondly, the cultivation of humanities graduate students in the digital intelligence narrative emphasizes interdisciplinary integration and application scenario-driven approaches, establishing composite teaching theories and methodologies that balance professional knowledge with cutting-edge technologies. Thirdly, talent development itself is a systematic project rooted in knowledge growth and value judgment, aiming to enhance capabilities. This addresses the fundamental questions of "what kind of talents to cultivate, how to cultivate them, and for whom", ultimately achieving the goal of empowering education through technology while enhancing technological value through education.

4.2. Reconstruction of educational ideas and innovation of path methods

Digital intelligence is promoting the comprehensive transformation of the educational concept, training process and teaching mode of design graduate students, which objectively requires that education and teaching should combine "digital intelligence training" with "training digital intelligence" to form a differentiated educational reform concept.

First, we should aim to cultivate innovative talents in interdisciplinary humanities. We should comprehensively explore innovative integration models of digital and intelligent technologies with design graduate education, and improve graduate students learning, mastery and application of interdisciplinary

professional knowledge from the perspective of interdisciplinary integration.

Secondly, enhancing graduate students analytical and application capabilities in interdisciplinary knowledge integration. Through teaching activities, this study will progressively cultivate systematic thinking throughout the digital and intelligent transformation process. By integrating AI technologies and research paradigms into relevant humanities disciplines, this study aims to strengthen students' professional integration skills and analytical mastery of cutting-edge theories. This is achieved through updating knowledge frameworks, enriching practical content, and introducing diversified course resource databases.

4.3. Innovation of digital and intelligent education resources and training models

In the era of digital intelligence, it is necessary to update the existing curriculum structure and teaching content of design-related majors in a planned and step-by-step manner according to the new business forms of the design industry and the development trend of social intelligence, and to build scientific research resources for design-related majors by "promoting teaching with research" [6]. Enhance the application of digital and intelligent technologies in the core process of "knowledge transmission, acquisition, mastery, and application". Offer design students elective courses in literature, history, philosophy, and pedagogy to broaden their development opportunities [7]. By adopting interdisciplinary integration as the starting point, we establish a cross-disciplinary, composite, and application-oriented graduate design education mechanism, while developing innovative training models to enhance students' interdisciplinary competencies. We actively expand the scope and depth of teacher-student interactions, leveraging the "Digital Intelligence+" model to organically combine knowledge transmission with skill development. This approach promotes students' active engagement in the teaching process, comprehensively supporting their growth and talent development. Through research projects, faculty guide skill training and implement continuous evaluation throughout the teaching process, enabling more effective interaction with students. The curriculum is dynamically adjusted based on students learning progress and practical capabilities.

5. Innovation of deep integration path of digital thinking

This study has developed an open resource repository and comprehensive learning platform that integrates market demands through "internal-external collaboration, practical design training, job experience immersion, and theory-practice integration". This pioneering initiative introduces a "digital thinking + design practice" fusion training model, enabling students to grasp the intrinsic connection between digital technologies and design objectives through hands-on experience. The program also features technical seminars and case studies analyzing real-world applications, cultivating students' ability to apply digital technologies in solving design challenges. This approach transforms technical tools from auxiliary aids into core drivers of design innovation, significantly enhancing students' competitiveness in the digital era. Furthermore, we establish cutting-edge technological research and cultivate artistic design talents.

The training base, with the help of industry-university-research experimental platform, enables students to experience the process of art creation, production, communication and service driven by cutting-edge technology, and ensures the seamless connection between education and employment through practical assessment, so as to cultivate multi-functional art and design talents with practical ability [8].

6. Conclusion

"Digital empowerment and cultural empowerment" are integrated into the graduate education model and teaching practice reform, with "cultivating virtue and nurturing talents" as the fundamental task. Adhering to the orientation of "telling Chinas stories well and practicing cultural inheritance", the distinctive ability cultivation of "inheritance and innovation" is incorporated into the entire course teaching process. The educational function of ideological and political education in courses is strengthened, and ideological and political element resources are explored and constructed. A curriculum teaching system that coordinates the development of "abilities and qualities" is established, effectively supporting the talent cultivation goal of innovative design and application capabilities that meet the requirements of the times. The paths, methods, and educational models of integrating ideological and political education in this course are applicable to the reform of ideological and political education in other disciplines, providing exemplary models for ideological and political education throughout the teaching process in related majors of colleges and universities, with significant application value and foreseeable educational effects.

The dissemination of this research achievement not only provides replicable and reference-worthy practical paradigms for graduate design education, but also demonstrates sustained value in driving deep integration between design education and industry demands, while supporting regional design industry upgrades. With evident implementation outcomes, this initiative contributes to cultivating high-caliber design professionals who combine digital literacy, innovative thinking, technical expertise, and cultural depth. It achieves long-term transformation of educational achievements and maximizes social value. This accomplishment serves as a guiding reference and exemplary model for graduate education programs in similar disciplines at universities and related fields within our institution.

Disclosure statement

The author declares no conflict of interest.

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