Reflection on and Optimization Strategies for the Interdisciplinary Talent Cultivation Model in Digital Media Arts: Postprint

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Abstract

The adjustment of digital media information technology industry structure has undoubtedly increased the demand for interdisciplinary talents in the domestic employment market, and interdisciplinary talents have gradually become one of the important strategies in the talent cultivation model for digital media art majors in higher education institutions. This paper, combining the characteristics of the digital media art major, identifies the deficiencies existing in the interdisciplinary talent cultivation model of domestic higher education institutions, and proposes optimization strategies for the interdisciplinary talent cultivation model based on the digital media art major. Finally, synthesizing the above content, it proposes breakthrough points for the interdisciplinary talent cultivation model, providing reference for the interdisciplinary talent cultivation model of digital media art majors.

Full Text

Preamble

Reflections and Optimization Strategies on the Interdisciplinary Talent Training Model for Digital Media Arts Majors

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Abstract: The restructuring of the digital media information technology industry has undoubtedly increased the demand for interdisciplinary talent in China's domestic job market, making the cultivation of such talent a key strategic priority for digital media arts programs in higher education institutions. This paper examines the characteristics of digital media arts majors, identifies deficiencies in current interdisciplinary talent training models at Chinese universities, and

proposes optimization strategies based on the specific needs of digital media arts education. Finally, it identifies breakthrough points for interdisciplinary talent training models to provide reference for cultivating versatile professionals in digital media arts.

Keywords: Digital Media Arts; Interdisciplinary Talent; Training Model; Reflection; Optimization Strategy

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In the era of digital information, digital media arts has become one of the most important disciplines in the arts. At its core, digital media arts uses artistic theory as its foundation and digital technology as its means to re-examine contemporary art forms, enabling the editing, reorganization, and innovation of modern artistic expression. The *Educational Modernization 2035* plan issued by the Central Committee of the Communist Party of China and the State Council emphasizes increasing the proportion of interdisciplinary talent in overall talent development. For the field of digital media arts, the standardization and scientific development of interdisciplinary talent training models remain in an active exploration phase. Training models must keep pace with the times to cultivate versatile professionals who possess "solid fundamentals, specialized expertise, and broad knowledge."

1.1 Digital Media Arts Major

Digital media arts has emerged as a rising star within art disciplines[1]. Its characteristics include the integration of multidisciplinary content, diversified development forms, and the breaking of boundaries between technology and art, with its evolution closely tied to scientific and technological advancement. Furthermore, digital media arts permeates a wide range of fields with strong knowledge intersectionality, making it a comprehensive discipline within the arts.

1.2 Interdisciplinary Talent Training Philosophy

Aligning with "labor market demands" serves as an external driving force for higher education institutions, while meeting internal teaching requirements acts as an internal catalyst, with both aspects forming important criteria for evaluating interdisciplinary talent training models[2]. Cultivating interdisciplinary talent reflects the core essence and purpose of digital media arts education, aiming to develop professionals suited to the demands of the digital information era[3]. Strengthening students' professional literacy, enhancing their technical capabilities, and fostering unity between teamwork spirit and independent thinking represent essential pathways for interdisciplinary talent cultivation in higher education.

2.1 Imperfect Curriculum and Teaching System

Domestic higher education institutions exhibit uneven distribution of teaching resources and 硬件设施, with varying degrees of emphasis placed on interdisciplinary talent training for digital media arts majors. Some institutions overemphasize software skills training in their curriculum design while neglecting comprehensive artistic cultivation[4]. Additionally, insufficient correlation between courses poses a significant challenge, as interconnectivity should be a primary consideration in curriculum arrangement. Some courses feature high difficulty coefficients but short learning cycles, potentially resulting in intense study pressure, superficial content depth, and fragmented knowledge acquisition[5-6]. Digital media arts programs should develop optimization strategies based on overall student profiles, updating and revising existing arts curriculum content. Moreover, the high frequency of updates to teaching equipment and software necessitates corresponding supplementation with new devices as a follow-up teaching guarantee.

2.2 Shortage of Specialized Faculty

In recent years, Chinese higher education institutions have gradually introduced digital media arts majors to meet contemporary talent demands, with the number of programs increasing annually and resulting in faculty shortages at some institutions. Some schools have reassigned teachers from other disciplines to form digital media arts teaching teams, leading to deviations in both artistic philosophy and technical software expertise. Without a sufficient quantity and quality of specialized teachers, schools may experience faculty overloading, ultimately compromising teaching effectiveness.

2.3 Inadequate Faculty Understanding of the Discipline

Some faculty members' understanding of the discipline remains anchored in outdated theories, preventing alignment with contemporary information trends and resulting in obsolete knowledge transmission that limits students' exposure to new concepts. In practice, some instructors focus exclusively on software technical training while others concentrate solely on artistic theory, failing to balance the relationship between art and technology[6].

2.4 Broad Scope of Professional Learning

Digital media arts curricula encompass extensive content domains, requiring students to master large volumes of course material[5-6], including foundational art courses, three-dimensional modeling courses, two-dimensional design courses, and various other course types. This broad learning scope increases students' mental stress and creates difficulty in balancing breadth versus depth, presenting a challenging choice between comprehensive coverage and specialized focus.

3.1.1 Establishing Correct Guiding Ideology for Talent Training

First, higher education institutions must clarify the correct guiding ideology for interdisciplinary talent cultivation, ensuring that graduates can adapt to future social changes and development demands. Second, institutions should identify the potential driving forces for interdisciplinary talent development by continuously strengthening students' foundational knowledge and specialized skills while cultivating innovative consciousness.

3.1.2 Clarifying Student-Centered Training Objectives

"Survival and development through distinctive features" represents the driving force for long-term program sustainability, requiring a training model that genuinely emphasizes both technology and art while equally valuing practice and innovation[7]. In actual teaching, faculty must fully understand individual differences among students, encouraging and respecting personalized development to activate students' creativity and independent innovation consciousness. This approach facilitates the creation of a specialized curriculum system that truly realizes the educational philosophy of "teaching according to aptitude" in digital media arts education[6-7].

3.1.3 Strengthening Scientific Discipline System Construction

With the rapid development of software and hardware technologies, higher education institutions must promptly adjust professional curriculum difficulty levels according to market demand changes to better enable students to adapt to social development[4]. Institutions should introduce advanced teaching concepts, improve and optimize discipline system construction, and strengthen exchanges between different disciplines[6][8]. Digital media arts programs should establish public courses based on requirements for fundamentality, accessibility, and comprehensiveness, while professional courses should meet requirements for cutting-edge relevance, practicality, and specialization[3]. Based on interdisciplinary integration theory, institutions should break down boundaries between disciplines, strengthen mutual collaboration, and facilitate students' transformation into interdisciplinary talent.

3.1.4 Actively Developing Bilingual Teaching Models

Foreign language proficiency primarily refers to professional English competency for digital media arts software to address international trends in the field[9]. For bilingual curriculum arrangements, institutions can: (1) hire bilingual foreign instructors to teach digital media arts courses[6]; (2) recruit bilingual faculty; or (3) develop bilingual teaching capabilities among existing faculty.

3.2.1 Establishing Special Fund Reward Mechanism Systems

3.2.1.1 Faculty Reward Mechanism

Schools should establish special faculty reward mechanisms for academic, research, and artistic achievements obtained during employment, helping teachers maintain positive attitudes, creativity, and professional fulfillment.

3.2.1.2 Student Reward Mechanism

Schools should establish special student reward mechanisms for achievements, awards, and honors obtained during study[6]. When students genuinely feel school support and encouragement, it enhances their learning motivation, influences and motivates peers, and fosters a positive learning atmosphere.

3.3.1 Optimizing Faculty Structure

Faculty research directions should avoid homogenization, with the overall research portfolio demonstrating diversification. Individual faculty research should not be limited to single directions but should involve multiple related fields to achieve erudition and versatility.

3.3.2 Establishing Faculty Professional Development Training Systems

Higher education institutions should regularly organize domestic and international professional development activities for faculty, inviting relevant professionals or institutions to conduct specialized lectures, training, and academic exchanges to improve teachers' comprehensive technical capabilities, research and development skills, and teaching levels.

3.3.3 Encouraging Faculty to Guide Students in Domestic and International Competitions

Domestic and international competitions serve as supplements to professional talent cultivation and effective means of testing professional competencies, gradually becoming feasible solutions for talent development in various institutions. Through participation in relevant competitions, students can clearly identify professional shortcomings, which helps strengthen knowledge consolidation and improvement while enhancing independent analytical abilities, teamwork capabilities, and communication skills when facing challenges.

3.3.4 Promoting Elite Courses by Professors and Distinguished Teachers

High-quality teaching represents the mission of higher education. Institutions should actively encourage professors and distinguished teachers to offer elite courses, enabling them to teach cutting-edge industry developments directly to students. While many schools have already implemented this practice, future institutional policies should provide professional incentives to encourage more professors to engage deeply in undergraduate teaching, ensuring students have a high-quality learning environment from enrollment.

3.4 Actively Planning the Construction of Practical Training Studios

Schools should increase funding for educational hardware equipment based on actual needs and construct specialized digital media arts practical training studios[10]. For example, some foreign institutions combine digital media arts courses with practical training studios, integrating real-world projects into school teaching practice where students complete final deliverables evaluated by companies and clients based on specific project requirements[11].

3.4.1 Implementing the "1+2" Practical Training Studio Talent Training Model

The "1+2"model operates on the principle of "teacher + student + student."First, the school serves as the studio creator, the teacher as the studio manager, and students as the training subjects. Students can be divided into upperclassmen and underclassmen, with upperclassmen entering the studio first and, based on principles of equality, mutual assistance, and respect, providing technical guidance to newly arrived underclassmen. This model facilitates comprehensive quality cultivation, knowledge consolidation, and improved communication skills while most importantly fostering students' spirit of selfless dedication. To ensure sustainable studio development, four recommendations are proposed:

3.4.1.1 Developing Practical Training Studio Management Systems

Strengthening the development of management systems for practical training studios represents an important policy for standardizing practical teaching. Therefore, institutions should enhance system development to promote stable and orderly studio operations. Systems serve as the most direct measure for regulating behavior and can create a positive learning atmosphere in training studios.

3.4.1.2 Establishing Special Funds for Hardware Equipment Management

Over time, hardware equipment in practical training studios may experience varying degrees of aging, manifested in equipment damage, maintenance, and updates that generate corresponding costs. Schools should establish special equipment management funds to effectively ensure stable studio operations.

3.4.1.3 Establishing Teaching Resource Databases

Institutions should actively construct teaching resource databases centered on digital media arts majors, including professional resource libraries, software libraries, and elite online course libraries[12]. The purpose is to enrich teaching resources, enabling students to engage in autonomous learning during extracurricular time through these databases.

3.4.1.4 Establishing Portfolio Assessment Mechanisms

Institutions should develop phased assessment mechanisms for student admission to practical training studios, primarily through portfolio submissions that may include recent competition entries or original creative ideas. Portfolio assessment mechanisms can evaluate students' recent learning progress, identify deficiencies at certain stages, create subtle competitive atmospheres, and use outstanding works to motivate peers, maintaining continuous learning habits.

4. Five Breakthroughs in the Interdisciplinary Talent Training Model for Digital Media Arts

Breakthroughs in interdisciplinary talent training models should be established on the foundation of "equality," "correctness," and "science," with the key lying in how to properly guide students to learn and learn well. On this basis, how to strengthen comprehensive cultivation of students' moral, intellectual, physical, aesthetic, and labor development represents a crucial consideration for schools. The following discussion addresses five aspects:

4.1 Government Promotion and Support for University-Enterprise Cooperation to Build Off-Campus Comprehensive Training Platforms

"Industry-academia-research" and "co-innovation" have become new trends in cultivating interdisciplinary talent. Building university-enterprise cooperative comprehensive training platforms better aligns with interdisciplinary talent training strategies for digital media arts majors. Schools should actively respond to national policies and guidelines, while governments should cooperate with institutions to establish long-term strategic partnerships with relevant enterprises

or organizations. Schools should regularly select outstanding students for referral to enterprises for practical training, transforming students' knowledge into practical capabilities.

Universities and enterprises must construct sound mutual assistance systems in talent cultivation, technical cooperation, and resource sharing[6][10]. Simultaneously, schools can reach agreements with enterprises to dispatch experienced professionals to conduct technical lectures, efficiently linking student knowledge with market labor demands[12]. During enterprise internships, students grasp cutting-edge technical information and the latest industry trends, accelerating the formation of clear career blueprints.

4.2 Integrating Specialized and General Education Models

Specialized education targets training in a specific discipline or field as its basic objective, emphasizing specialized knowledge and skills. General education, however, aims to explore profound theoretical knowledge and emphasizes comprehensive individual development. Because social progress depends on different types of talent, these two training models do not stand in absolute opposition. Only by combining both approaches can institutions cultivate interdisciplinary talent that is "both specialized and general," possessing both technical expertise and comprehensive qualities—precisely what the current digital media arts field requires.

4.3 Advancing Dual-Degree Major-Minor Model Construction

Dual-degree models should be formulated according to the total number of disciplines in higher education institutions. Comprehensive universities with disciplinary advantages should implement dual-degree major-minor models, with different schools establishing different policies and philosophies based on the core principle of prioritizing the major. Minor studies should not affect major learning. Students participating in second major minors must comply with the regulations and requirements of the minor program. Additionally, schools should strengthen the establishment of minor program systems and rules.

4.4 Actively Developing Hidden Curriculum

Beyond foundational, specialized, and required courses, schools should actively develop both explicit and hidden curricula, with particular emphasis on hidden curriculum construction. Hidden curriculum does not require fixed learning plans and offers advantages through learning environments that combine natural and social settings, helping to stimulate student interest.

Developing hidden curriculum offers more benefits than drawbacks, helping to break through traditional teaching models and explore relaxed, comfortable learning environments. Hidden curriculum advantages include unrestricted

thinking processes, unintentional knowledge acquisition, rich and varied content, training in social communication skills, and discovering student potential and individuality—all playing positive roles in comprehensive quality development.

4.5 Establishing an Interdisciplinary Course-Based Talent Training Model

Digital media arts curricula encompass extensive content, including visual design, multimedia imaging, computer programming, and other courses. First, the essence of interdisciplinary cultivation is to meet socio-economic development demands, breaking through traditional professional curriculum limitations, though integrating new concepts requires a long and difficult 磨合 process. Second, interdisciplinary cultivation must observe the principle of distinguishing primary from secondary elements, clearly recognizing that any discipline serves as an auxiliary booster for the major, with the major discipline firmly established as the central principle. Simultaneously, both internal and external demands must be considered— "internal" referring to educational needs and "external" referring to market labor demands. In a market economy environment, listening to the "voice of the market" represents a key path for sustainable institutional development.

The wave of the new media internet era is breaking through traditional teaching systems, making talent training system reform an inevitable trend. Currently, interdisciplinary talent training models in Chinese higher education institutions remain in an imperfect stage, with relatively low attention paid to interdisciplinary talent cultivation. Although the concept of interdisciplinary talent has become one of the directional focuses in digital media talent training, implementation of relevant policies still requires strengthening. As the initial base for talent cultivation, higher education institutions should take the lead in conducting planned and targeted teaching reforms for interdisciplinary talent training systems, steadfastly grasping future development directions for the major, and timely updating and improving professional training programs. Institutions should maintain positive attitudes toward constructing both on-campus practical training studios and off-campus training bases for digital media arts majors. Finally, higher education institutions should actively respond to national policy calls and explore training models suitable for interdisciplinary talent in digital media arts.

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Note: Figure translations are in progress. See original paper for figures.